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THE IMPACT OF DIFFERENT METHODS OF INSTRUCTION OF L2 SPANISH DETERMINERS AND THE ROLE OF LANGUAGE TRANSFER.

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PROGRAMA DE DOCTORADO EN FILOLOGÍA: ESTUDIOS LINGÜÍSTICOS Y LITERARIOS

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RESUMEN EN CASTELLANO: INTRODUCCIÓN, REPASO DE LA LITERATURA, LA INVESTIGACIÓN Y SU METODOLOGÍA Y RESULTADOS

En este trabajo investigamos la relación entre métodos de enseñanza y el desarrollo de conocimiento de una segunda lengua, así como la influencia de esos mismos métodos de instrucción en el fenómeno de la transferencia entre la lengua nativa y la extranjera.

Como resultado de esa investigación, proporcionamos los resultados obtenidos, acompañados de una revisión actualizada del marco teórico y práctico más relevantes. Estos resultados son comparados y contrastados con otros anteriores, lo cual nos permite presentar también las conclusiones pertinentes.

Los participantes de esta investigación son un grupo de estudiantes de español como segunda lengua en un centro de educación secundaria de los Estados Unidos. El objeto de su aprendizaje está representado por los usos básicos de los determinantes en español. Este proceso cognitivo está influenciado por una serie de factores que, a su vez, son también investigados:

1. Métodos de instrucción. Nos encargamos de estudiar los elementos más importantes de la instrucción implícita y explícita, así como de los trabajos científicos más relevantes que se han llevado a cabo. De acuerdo con esto, parece que la posición más común en la doctrina es la integradora, instando al uso de ambos mecanismos de enseñanza para la obtención de un aprendizaje más efectivo y fructífero.

2. Aprendizaje del conocimiento de una segunda lengua y la búsqueda y uso de métodos fiables de medida de ese conocimiento. Es esencial diferenciar y definir correctamente el conocimiento implícito y explícito en el proceso de aprendizaje de una lengua extranjera. Asimismo, conviene determinar el papel que este tipo de conocimiento desempeña en todo el proceso de aprendizaje de aquélla. Además, en este trabajo, nos ocupamos de continuar la línea

de investigación relativa a la búsqueda de medidas de conocimiento de una segunda lengua que sean fiables.

3. La transferencia en el lenguaje. Este fenómeno lingüístico estudia la tendencia a incorporar en la segunda lengua características de la primera, reconociendo la influencia que ésta genera sobre la aprendida. En el presente estudio, nos centramos en investigar si los métodos de enseñanza aplicados suponen algún tipo de influencia en este proceso de transferencia entre las dos lenguas: del inglés al español.

4. La edad de los aprendices como elemento diferenciador de los mismos. Este factor es aceptado por la doctrina como uno de los elementos de la teoría lingüística de las diferencias individuales. Los participantes en nuestro estudio son adolescentes, cuyas edades varían entre los 14 y los 18 años. Intentamos averiguar si la edad supone un elemento diferenciador en el aprendizaje de la segunda lengua.

Es importante mencionar otros aspectos recogidos en la introducción de nuestro trabajo:

- El contexto y los objetivos: esta investigación tuvo lugar en un centro privado de educación secundaria de los Estados Unidos. Todos los participantes nacieron en los Estados Unidos, y su lengua principal es el inglés. Ninguno de ellos habla ninguna otra lengua.

Varios son los objetivos buscados: investigar la influencia de los métodos de instrucción en el tipo de conocimiento desarrollado y en la transferencia de la primera lengua a la segunda; averiguar si el nivel de competencia de los aprendices afecta al proceso de aprendizaje de la segunda lengua; ampliar la línea de investigación relativa a la búsqueda de métodos fiables de medida del conocimiento de una lengua extranjera; investigar la relación entre las medidas de conocimiento implícito y explícito con la medida del progreso del aprendizaje; averiguar si la edad de los aprendices tiene un impacto en el conocimiento aprendido.

- Posibles contribuciones: este estudio representa un esfuerzo en el avance de la investigación del procedimiento de aprendizaje de una segunda lengua por adolescentes. Al mismo tiempo, contribuye a aportar conclusiones a la relación entre los métodos de enseñanza implícito y explícito con el tipo de conocimiento desarrollado, implícito y explícito y también con la transferencia entre la primera y segunda lengua. Otra contribución de esta tesis es la relativa a la teoría de las diferencias individuales, siendo la edad uno de los factores influyentes. Todas estas contribuciones generan importantes implicaciones pedagógicas, las cuales son explicadas en detalle en el Capítulo 5.

- La organización del estudio. Este trabajo está estructurado en 6 capítulos. El capítulo 1, recoge la introducción; en el capítulo 2, se lleva a cabo una revisión de la literatura más importante relativa a esta investigación; el capítulo 3, describe la metodología aplicada a esta tesis; en el capítulo 4, hablamos de los resultados obtenidos, y en los capítulos 5 y 6, abordamos la discusión de esos resultados, sus implicaciones y las conclusiones pertinentes. Además, citamos varias limitaciones y sugerencias respecto a investigaciones futuras. Todo el diseño de la investigación siguió las pautas recomendadas en la literatura (Chaudron, 2003; Mackey & Gass, 2015; J. Norris & Ortega, 2003).

REVISIÓN DE LA LITERATURA.

En este capítulo revisamos los trabajos científicos más importantes y actualizados en relación a los seis grandes temas tratados en esta tesis:

- Los métodos de investigación de la adquisición y aprendizaje de una segunda lengua.
- Los métodos de enseñanza de una segunda lengua.
- El conocimiento implícito y explícito de la segunda lengua.
- La edad y la adquisición de segundas lenguas.

- El desarrollo del español como segunda lengua.

- La función de la primera lengua y de su transferencia a la segunda.

Además, señalamos aspectos no tratados en la literatura, las razones fundamentales de esta investigación y las cinco preguntas sobre las que se basa nuestro estudio.

Así, este trabajo investiga cuatro aspectos con lagunas en las investigaciones científicas relacionadas con nuestra temática: la relación entre los métodos de instrucción implícito y explícito con el conocimiento implícito y explícito de una segunda lengua; la relación entre los dos métodos de instrucción y la transferencia en el aprendizaje de una segunda lengua; la edad adolescente y las diferencias de aprendizaje de las estructuras objeto de estudio de acuerdo a aquélla; la influencia de un factor contextual (escuela secundaria privada) en el aprendizaje de la segunda lengua, teniendo en cuenta los métodos de instrucción, el nivel de competencia de los aprendices y el tipo de conocimiento adquiridos.

Las razones principales de llevar a cabo esta investigación consisten en intentar cubrir las lagunas arriba expuestas, comparando y contrastando los resultados obtenidos con otros en la comunidad científica.

Por último, nuestra investigación intenta responder a cinco preguntas:

1. ¿Tiene el tipo de instrucción (implícito/explícito) algún efecto sobre el tipo de conocimiento (implícito/explícito)?

2. ¿Existen diferencias entre los dos grupos y su conocimiento implícito y explícito de la segunda lengua teniendo en cuenta el nivel de competencia de los participantes?

3. ¿Existe alguna correlación entre las medidas de conocimiento implícito y explícito y la medida de logro?

4. ¿Es la edad de los participantes un factor importante en su proceso de aprendizaje?

5. ¿Tiene el tipo de instrucción algún efecto sobre la transferencia entre la primera y segunda lengua?

LA INVESTIGACIÓN Y SU METODOLOGÍA.

En este capítulo tratamos varios aspectos:

1. Descripción de los participantes: el grupo experimental estuvo formado por 45 estudiantes de español como segunda lengua, en una escuela secundaria privada de los Estados Unidos. Estos estudiantes estaban divididos en cuatro clases diferentes siguiendo las normas de matriculación de la escuela: dos clases de Español 1 y otras dos clases de Español 3. Al mismo tiempo, debieron completar un cuestionario relativo a sus datos personales, uso del español fuera de la escuela, años de instrucción recibidos, exposición al español y una valoración personal de su nivel comunicativo en español y en inglés. La investigación contó también con la participación de un grupo de control de 10 personas, todas ellas nacidas y criadas en España.

2. Instrumentos: varios procesos se llevaron a cabo para medir el conocimiento implícito y explicito, aplicar los métodos de instrucción implícito y explícito, valorar los efectos de los métodos de instrucción en la transferencia de lenguaje entre la primera y la segunda lengua y asignar a los participantes en su grupo correcto de acuerdo a su nivel de competencia.

a) Para medir el conocimiento explícito se utilizó un test de gramaticalidad sin límite de tiempo. Para medir el conocimiento implícito fue usado el mismo test de gramaticalidad, pero aplicando límites de tiempo, siguiendo la línea de investigación de trabajos precedentes (Bowles, 2011; R. Ellis, 2005a; R. Ellis, 2015; Godfroid et al., 2015; Gutiérrez, 2013; J. Norris & Ortega, 2003). Primero se llevó a cabo la prueba de conocimiento implícito y luego la de conocimiento explícito.

b) La enseñanza implícita y explícita de las formas objeto de estudio, siguió también las directrices de un trabajo anterior (Scott, 1989; Scott, 1990). Dichas formas objeto de estudio consistieron en cinco estructuras del sistema de determinantes de la lengua española: uso del artículo definido en segunda mención de un sustantivo (*Mi amigo tiene un gato. El gato es blanco*); imposibilidad de uso de nombres contables sin artículo (*Rosa tiene un gato. *[1]Un gato se llama Mocheté*); uso de nombres plurales de un modo genérico sin artículo (*El perro de Ramón siempre le hace caso. *Perros son muy obedientes*); uso del artículo definido plural en contextos genéricos o específicos (*las gallinas tienen dos patas*); y uso de los artículos definidos en contextos de posesión alienable (*Ricardo levantó la/su mano*). Las tres primeras estructuras se utilizaron para investigar la presencia de una relación estadísticamente significativa entre el tipo de instrucción, el tipo de conocimiento y el logro en el desarrollo del conocimiento de la segunda lengua y la edad de los participantes. Las dos últimas estructuras, se utilizaron para estudiar la posible relación entre los métodos de instrucción y la transferencia entre la primera y la segunda lengua. Todas estas estructuras fueron utilizadas para ambos métodos de instrucción: implícito y explícito.

El método implícito consistió en la lectura de un capítulo breve de una historia durante cinco períodos consecutivos de la misma clase. Cada historia contó con 8 usos de una de las cinco estructuras objeto de estudio. Después de la lectura de la historia, comenzó un período de preguntas para asegurarse de la comprensión de la misma. Inmediatamente después, se leyó la historia una vez más. Ninguna actividad oral o escrita tuvo lugar antes o después de cada lectura. Este método de instrucción se aplicó a un grupo de principiantes y a un grupo de estudiantes intermedios, todos ellos participantes de esta investigación.

[1] The asterisk symbol denotes ungrammaticality

El método explícito consistió en la presentación de las normas gramaticales de las estructuras arriba expuestas, durante 10 minutos de cada clase, en cinco clases consecutivas de cada grupo: un grupo de principiantes y otro grupo de nivel intermedio. Al final de cada explicación de las normas gramaticales relativas a cada una de las cinco estructuras, se presentaron cinco ejemplos de sentencias con la estructura objeto de estudio de esa sesión. No se produjo ninguna actividad oral o práctica.

c) Para investigar los efectos de la instrucción en la transferencia de lenguaje entre la primera y segunda lengua, se utilizaron tres instrumentos: una tarea de verdad-valor; una tarea de relacionar fotos y frases, y una tarea de valoración de aceptabilidad entre una frase y un dibujo. Todas estas tareas fueron llevadas a cabo por los aprendices durante dos períodos temporales, antes y después de la instrucción, con el fin de comprobar los efectos de la misma teniendo en cuanto ambos resultados.

d) El nivel de competencia de los participantes quedó estipulado por la escuela según la inscripción en dos cursos: Español 1 (principiantes) y Español 3 (intermedios). Sin embargo, todos estos aprendices tomaron un examen de competencia para comprobar que las diferencias entre los participantes de cada grupo eran significativas. De este modo, los estudiantes se reagruparon en dos grupos: un grupo de competencia básica (nivel elemental) y un grupo de competencia más avanzada (nivel intermedio).

3. El diseño de la investigación: éste es un estudio empírico cuasi-experimental ya que los participantes no fueron asignados aleatoriamente en sus grupos. Además, el estudio es correlacional, puesto que se interesa en determinar una posible relación entre distintas variables. Por último, el presente estudio es predictivo ya que la aplicación de métodos estadísticos implica la posibilidad de predecir posibles resultados (Mackey & Gass, 2015; Ortega, 2005).

4. Procedimientos estadísticos: los resultados obtenidos en cada prueba fueron valorados estadísticamente usando el programa estadístico IBM SPSS 23.

5. Estudio piloto: antes de la ejecución de las distintas pruebas, se llevó a cabo un estudio piloto para comprobar que el diseño del trabajo, los materiales y las distintas pruebas eran correctos.

RESULTADOS

En este capítulo se muestran los resultados obtenidos, los cuales son relacionados con cada una de las 5 preguntas de esta investigación:

1. Pregunta 1: mostramos los resultados ordenados según el tipo de medida, teniendo en cuenta el factor de gramaticalidad como elemento diferenciador de la clase de conocimiento (R. Ellis, 2015; Gutiérrez, 2012; Gutiérrez, 2013).

2. Pregunta 2: mostramos las diferencias entre los dos grupos de aprendices según su nivel de competencia y el conocimiento adquirido de las formas gramaticales objeto de estudio.

3. Pregunta 3: los resultados muestran la relación entre la prueba escrita (de logro) con las medidas de conocimiento implícito y explícito. Al mismo tiempo, estos mismos resultados indican la influencia de los métodos de instrucción en el conocimiento de la segunda lengua, teniendo en cuenta varias estructuras gramaticales tomadas de investigaciones anteriores (Bowles, 2011; R. Ellis, 2005a).

4: Pregunta 4: mostramos los resultados relativos a la relación entre la edad de los participantes y el desarrollo del conocimiento de las formas objeto de estudio.

5. Pregunta 5: los resultados muestran la relación entre los dos tipos de instrucción utilizados y la transferencia de la primera y segunda lengua.

DISCUSIÓN Y CONCLUSIÓN

Varios descubrimientos se han obtenido como consecuencia de esta investigación:

1. El primer hallazgo está relacionado con la validez de los test de gramaticalidad como instrumento de medición del conocimiento implícito y explícito. De acuerdo al mismo, la gramaticalidad de las frases es el elemento decisivo para determinar el tipo conocimiento de una segunda lengua (implícito/explícito), y no la aplicación de limitaciones de tiempo a la realización de esos juicios de gramaticalidad. Así, las sentencias gramaticales suponen una medida del conocimiento implícito y las no gramaticales, una medida del conocimiento explícito.

2. El método explícito de instrucción es más efectivo que el método implícito. En especial, esta efectividad es mayor con aprendices de un mayor nivel de competencia, como fue el caso de los participantes de nivel intermedio.

3. Los estudiantes con un nivel mayor de competencia (nivel intermedio) tienen una mayor habilidad para adquirir conocimiento explícito. Además, el nivel de competencia, a la vista de los resultados obtenidos, no fue significativo en relación al desarrollo del conocimiento implícito. Sin embargo, los participantes de un mayor nivel de competencia, desarrollaron un mayor nivel de este tipo de conocimiento.

4. La prueba de logro incluida en el test de gramaticalidad sin límite de tiempo representa un instrumento de medida del conocimiento explícito.

5. El uso de ambos métodos de instrucción (implícito/explícito), contribuyó al conocimiento global de la segunda lengua.

6. La edad de los participantes (entre 14 y 18 años) no fue estadísticamente significativa en la adquisición de conocimiento de la segunda lengua.

7. El método de instrucción explícito es efectivo a la hora de ayudar a los aprendices de una segunda lengua a reducir los efectos de la transferencia entre la primera y la segunda lengua, consiguiendo así, un nivel más parecido al de los nativos de esa lengua.

Estos descubrimientos tienen una serie de repercusiones pedagógicas:

1. Los niveles más básicos de aprendizaje de una segunda lengua no deberían recibir extensiva instrucción explícita.

2. El uso de la instrucción explícita es más adecuado para aprendices de un nivel intermedio y superior.

3. Una tarea escrita sin límite de tiempo, puede desarrollar el conocimiento explícito de los aprendices. Teniendo en cuenta que este tipo de conocimiento ayuda al desarrollo del conocimiento implícito, este tipo de tareas han de ser consideradas cómo útiles y necesarias en el aprendizaje y mejora del estudio de una segunda lengua.

4. Es recomendable el uso de ambos tipos de instrucción (implícito/explícito) en la clase, pues ambos ayudan en la adquisición de una segunda lengua.

5. El uso del método de instrucción explícito es beneficioso para reducir los efectos de transferencia entre la primera y segunda lengua. Por lo tanto, además de ser más efectivo que el método implícito, ayuda a la hora de reducir las distancias para llegar a un nivel de competencia más cercano al nativo.

Es esta parte de discusión, se citaron además una serie de limitaciones y sugerencias de cara a trabajos de investigación futuros. Un ejemplo de limitación de este trabajo es el hecho de que se utilizó una sola medida de conocimiento explícito y una sola de conocimiento implícito. El uso de una medida adicional para cada conocimiento habría sido beneficioso. Por otra parte, una de las sugerencias citadas en el trabajo para investigaciones futuras, sería continuar la línea

de investigación que relaciona los métodos de instrucción y la trasferencia de lenguas, ya que a día de hoy existe un vacío importante relacionado con esta temática (Spada & Lightbown, 2006).

Varias conclusiones se han obtenido en esta investigación:

1. A la hora de investigar el conocimiento de una segunda lengua, es esencial encontrar medidas fiables. Nuestro estudio se une a aquéllos (R. Ellis, 2015; Gutiérrez, 2013) que afirman que es la gramaticalidad de las estructuras el elemento diferenciador del tipo de conocimiento adquirido. Conviene no perder de vista el desarrollo de estudios muy recientes (Suzuki & DeKeyser, 2015; Vafaee, Suzuki, & Kachisnke, 2016) que ponen en duda estos factores como identificadores del tipo de conocimiento.

2. La instrucción explícita debe implementarse a partir de niveles de competencia intermedia. Este trabajo pone en duda la efectividad de la instrucción explícita para estudiantes principiantes.

3. Los aprendices de un nivel de competencia más avanzado desarrollan un mayor conocimiento explícito que aquéllos de un nivel más elemental. El nivel de competencia no es un factor decisivo en el desarrollo del conocimiento implícito.

4. El uso de la actividad escrita sin límite de tiempo se mostró como una medida fiable del conocimiento explícito de la segunda lengua.

5. Los dos métodos de instrucción son fiables en el desarrollo del conocimiento de una segunda lengua.

6. El método de instrucción explícito ayuda a mitigar los efectos de la transferencia entre la primera y la segunda lengua.

7. La edad de los participantes (14-18 años) no fue estadísticamente significativa en el desarrollo del conocimiento de una segunda lengua. La adolescencia es un período crítico en el

desarrollo del individuo. La carencia de estudios sobre este segmento de la población, hace necesaria la llamada a más investigaciones, sobre todo si tenemos en cuenta que la mayoría de estudios sobre la adquisición de segundas lenguas versa sobre niños y adultos.

ABBREVIATIONS

ACP	Adaptive Control of Thought
ADA	Alienable Definite Article
AJT	Acceptability Judgment Task
AOs	Ages of Onset
APD	Alienable Possessive Determiner
CAF	Complexity, accuracy, fluency
CF	Confirmation Check
CPH	Critical Period Hypothesis
DAA	Definite Article Alienable
DAB	Definite Article Both
DAI	Definite Article Inalienable
DefP	Definite Plural
DemP	Demonstrative Plural
DST	Dynamic Systems Theory
FonF	Focus on Form
FonFs	Focus on Forms
FonM	Focus on Meaning
IDA	Inalienable Definite Article
IDs	Individual Differences
IPD	Inalienable Possessive Determiner
ISLA	Instructed Second Language Acquisition
L1	First Language

L2	Second Language
LAD	Language Acquisition Device
MDH	Markedness Differential Hypothesis
MKT	Metalinguistic Knowledge Test
NPs	Noun / Nominal Phrases
PA	Possessive Alienable
PB	Possessive Both
PI	Possessive Inalienable
PPP	Presentation Practice Production
PSMT	Picture Sentence Matching Task
RQs	Research Questions
SLA	Second Language Acquisition
SLEP	Secondary Level English Proficiency Test
SPH	Sensitive Period Hypothesis
SPAT	Sentence Picture Acceptability Judgment Task
T1	Time 1
T2	Time 2
TAJT	Timed Acceptability Judgment Task
TBLT	Task-based Language Teaching
TGJT	Timed Grammaticality Judgment Task
TOEFL	Test of English as a Foreign Language
TPR	Total Physical Response
TVJT	Truth Value Judgment Task

UAJT	Untimed Acceptability Judgment Task
UG	Universal Grammar
UGJT	Untimed Grammaticality Judgment Task

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ABSTRACT

This study examines the acquisition of L2 knowledge (Spanish determiners) by four groups of adolescents as (L2) Spanish learners, taking into consideration two types of instruction: implicit and explicit. Another purpose of this paper is to investigate the effects of the type of instruction (implicit vs. explicit) on language transfer L1 English-L2 Spanish.

The groups in this study were part of two different courses at a High School level in the United States during a winter trimester. Two groups were of higher proficiency and the other two, of lower proficiency. Groups with the same proficiency were instructed with both, implicit and explicit methods.

We focus on contrasting the results of both proficiency groups and their specific methods of instruction. Forty-five adolescent (L2) learners of Spanish carried out six written tasks (Timed Grammaticality Judgment Test, Untimed Grammaticality Judgment Test, L2 Achievement task, Truth-Value Judgment Task, Picture-Sentence Matching Task and Sentence-Picture Acceptability Judgment Task) before and immediately after the implicit and explicit methods of instruction were complete.

The research conducted in this paper contains five questions, whose answers were addressed through the statistical analysis of the raw scores obtained in the different mentioned tasks. The research results show that the methods of instruction were significant taking into consideration the proficiency of the students. The higher proficiency group had higher scores than the lower proficiency group on all the measures of implicit and explicit knowledge, developing significantly more explicit knowledge representations of the forms tested than the lower proficiency group. In relation to transfer effects, results show that the explicit method can help the higher proficiency group to more resemble native speakers.

Chapter 1: Introduction

1.1. Statement of the Problem.

The main goal of this paper is to contribute to the second language acquisition (SLA) process specifically in relation to different aspects: effectiveness of instruction (implicit/explicit method), acquisition of L2 knowledge (implicit vs. explicit) and its reliable measurement, language transfer L1 English-L2 Spanish, and individual differences (age).

SLA refers to what learners do. It is a sub discipline of applied linguistics and is closely related to psychology, cognitive psychology and education.

The participants of this study are forty-five adolescents in a private secondary school in the United States, studying Spanish as a second language. Their ages range from 14 to 18 years old. It is important to note that children and adults are the target population of the majority of studies on SLA. This study represents an effort to fill the gap between these two groups.

In this work, we are adopting a cognitive approach to SLA, based on the processes that take place in the brain that consolidate the language learning. Those processes are influenced by a series of factors. Some of these factors are the object of this investigation:

(1) Methods of instruction. The role of explicit and implicit instruction is essential in the achievement of competence of any L2. R. Ellis (2015) defines both types of instruction as well as distinguishes them from one another. It is accepted in the literature (Bialystok, 1981; R. DeKeyser, 1998; C. J. Doughty, 2008; R. Ellis, 2015; M. H. Long, 1983) that the explicit instruction helps and has remaining effects in the acquisition of a L2. Those effects are possible in the different sections of the language: grammatical, pragmatic, lexical and phonological. It is obvious that despite the positive effect of the explicit instruction just mentioned, we should not forget that those can vary according to the IDs of the learners (R. DeKeyser, 2007).

R. Ellis (2015) refers to implicit instruction in these terms: "Implicit instruction aims not just to expose learners to the target language, but to do so in ways that will induce incidental attention to linguistic forms". In this type of instruction, focus-on-form is of paramount importance. Since there is not any explicit presentation of the instructional target, attention to form happens while the learners are using the L2. There are some mechanisms with which that's possible: corrective feedback, pushed output or interactionally modified output. It has been demonstrated that implicit instruction is also effective in the achievement of a L2 (Goo, Granena, Yilmaz, & Novella, 2015; J. M. Norris & Ortega, 2000; Shintani & Ellis, 2010; Shintani, Li, & Ellis, 2013; Shintani, 2015a). Most of the research in this field has been based on the learners. However, we believe that it is crucial to look at the instructional methods related to learners, to find out if those methods are effective to consolidate and help develop both types of learning.

According to the research up to date, we can state that teachers should not be in a position of having to choose between the two types of instruction. It seems that integrating both methods into the language curriculum is probably the most fruitful way to help learners become more efficient and effective in their efforts to learn a L2.

(2) L2 learning and finding reliable means of measurement. The distinction between implicit and explicit knowledge is essential in the second language acquisition field due to the repercussions that each type of knowledge has in the development of proficiency of the L2 learners (R. DeKeyser, 1994; N. Ellis, 1994; N. C. Ellis, 2008; R. Ellis, 2006). Implicit and explicit knowledge of language has been addressed by different fields: language education, (Kelly, 1969) applied linguistics, (S. Krashen, 1982) psychology, (Reber, Kassin, Lewis, & Cantor, 1980) and cognitive neuroscience (A. W. Ellis & Young, 2013).

All this work and research proved that the L2learning process can be possible implicitly and explicitly. In relation to second language acquisition, R. Ellis (2006) defines explicit knowledge as: "facts that speakers of a language have learned… Explicit knowledge is held consciously, is learnable and verbalisable" (p. 95). On the other hand, "implicit knowledge is procedural, is held unconsciously, and can only verbalized if it is made explicit. It is accessed rapidly and easily and thus is available for use in rapid, fluent communication" (p. 95).

One of the main issues regarding implicit and explicit knowledge is their role in L2 learning. In relation to implicit knowledge there is a majority of SLA researchers (R. DeKeyser, 2008; R. Ellis, 2006; Suzuki & DeKeyser, 2015; Vafaee et al., 2016) who agree that having a competence in a L2 is related intrinsically with this type of knowledge through a series of automatic productions and processing. In other words, the acquisition of a L2 requires the development of implicit knowledge. However, regarding the role of explicit knowledge, doesn't exist much consensus. Different authors attribute different features to this type of knowledge: monitor role (S. D. Krashen, 1981), facilitative role (R. Ellis, 1994a), linguistic role (N. C. Ellis, 2005).

It is important to take into consideration the different characteristics of implicit and explicit knowledge to design tests to measure them in a reliable manner. R. Ellis (2005) distinguishes seven criteria[3] to design those tests based on the above-mentioned characteristics of implicit and explicit knowledge. The last 20 years of research have been especially fruitful in the creation and improvement of these tests (Bowles, 2011; Elder & Ellis, 2009; R. Ellis, 2004; Erlam, 2006; Gutiérrez, 2012; Gutiérrez, 2013; Han, 2000). As part of that improvement, principal components factor analysis and confirmatory factor analysis were carried out to ensure

[3] Degree of awareness, time available, focus of attention, systematicity, certainty, metalinguistic knowledge, learnability.

the validity of those tests used with the participant learners. However, some scholars (Shiu & Spada, 2012; Spada, 2011; Spada, 2015; Ullman, 2001) suggest that more research must be done.

At the same time, it has been reported the need of finding reliable measures of these two constructs (R. Ellis, 2005a; Rebuschat, 2013; Winitz, 1996). In order to do so, it is crucial the investigation of the relationship between implicit and explicit knowledge (R. M. DeKeyser, 1995; Hu, 2002; J. H. Hulstijn & Hulstijn, 1984; Macrory & Stone, 2000; Seliger, 1979), the attainment of a clear distinction between the two of them (R. Ellis, 2015), and a correct operationalization of those knowledge representations (R. Ellis, 2005a). This study joins that common effort.

(3) Language transfer. Language transfer is the tendency to incorporate some linguistic characteristics from the native language to the second language. In our research, we focus on the transfer between L1 English-L2 Spanish in relation to determiners. Some research authors (Dechert & Raupach, 1989; R. Ellis, 2015; S. M. Gass & Selinker, 1992; Odlin, 1989) identified some factors that make an influence in this phenomenon: linguistic, psycholinguistic, contextual, developmental and individual. R. Ellis (2015) declares that "the effects of L1 transfer on L2 learning are extensive, varied, and persistent", (p.139). Other researchers, (Dulay & Burt, 1974; Lado, 1957) emphasize the idea that the differences between the L1-L2 don't produce necessarily learning difficulties. The word *multicompetence* (V. Cook, 2003) alludes to the knowledge of more than one language. He also proposed not to use the term 'transfer' to focus more on the dichotomy bilingual/multilingual language use. In this study, we seek to investigate whether a specific method of instruction has any effect on the language transfer. In the literature, there is a lack of studies considering this issue (Spada & Lightbown, 1999).

(4) Age: this is one of the factors that try to explain the individual differences among subjects. The critical period hypothesis (CPH) is a construct related to it. According to this hypothesis, there is an ideal time to acquire a language in a proper linguistic environment, after which the acquisition becomes much more difficult. Therefore, if language input doesn't take place during that time, in most cases, the individual will never be able to achieve a native-like level of competence. However, the impact of age on L2 acquisition is complex. Ellis (1985) refers to this question stating that since the CPH is surrounded by some controversy (M. H. Long, 1990; Luria, 1930; D. M. Singleton & Ryan, 2004; Steinberg & Silverberg, 1986), "some researchers have opted to talk about a sensitive period rather than a critical period", (p.35). L2 adult learners differ from each other in the achievement of that language. Child learners will also have differences in their attainment but overall, while acquiring their first or second language, will obtain a native-like competence (Johnson & Newport, 1989; M. H. Long, 2006). The target population of this study is a group of adolescents in a secondary school, which represents an opportunity to contrast and compare the results of this under reported learner community to children and adults. Adolescence is an "age of opportunity", (Steinberg, 2014) where vital changes take place and determine decisively the coming years of any individual.

Other factors that are important to the concept of IDs are language aptitude (Carroll & Sapon, 1959; Robinson, 2005; Skehan, 2011), learning styles (Rebecca, 2003), learning strategies (O'malley & Chamot, 1990; R. L. Oxford, 1990), motivation (Dornyei, 2009; Dörnyei & Ushioda, 2009; Gardner & Lambert, 1959; Gardner & Lambert, 1972; Gardner, 2000; Gardner, 2010), personality, (Winke, 2007) and sex (MacIntyre, Baker, Clément, & Donovan, 2002) . All of them play a specific influence in the different degree of attainment of competence

in the acquisition of a L2. Due to the nature of this paper, we are just citing them for further reading if interested.

1.2. The Context and Goals of the Current Study

This research has taken place in a secondary school learning context. There are several language learning contexts. Some researchers (Brown, 2006; R. Oxford, 1996) distinguish among foreign language, second language, bilingual language, and immersion language contexts. According to this, participants in our study belonged to a foreign language learning context where the student is exposed to the target language in the classroom only. These individuals are native English-speaking adolescent learners of Spanish studying in a non-intensive secondary school language program. Given the location of the school, -a rural area in the north of Georgia-, there are not many opportunities to communicate in Spanish outside the school.

It is also important to mention the classroom context and the teaching approach of the instructor in this study. The instructor in this study was the author of it, educated within a philosophy that encourages the teacher's consciousness about the different learning methods, aptitudes, social and economic backgrounds of the students in the classroom. In this model, the teacher follows a curriculum with the goal to motivate learners through communicative and practical tasks with a focus on meaning, giving attention to the formal characteristics of the target language, (Elbaz, 1983; Grossman, 1990; Hatton & Smith, 1995).

Learners were instructed in the target language for 190 minutes on a weekly basis (75 minutes a day for 2/3 days a week in a rotatory schedule) for approximately nine weeks a trimester. Learners used a variety of materials such as textbook, workbook, handouts and were assigned homework regularly.

Both methods of instruction, -implicit and explicit- were used on a regular basis paying attention to both, form and meaning. It has been stated that a specific type of instruction doesn't necessarily help produce a specific type of knowledge (J. M. Norris & Ortega, 2001; Schmidt, 1994; Schmidt, 1995).

The goals of this study are in relation to the research questions, which are presented in Chapter 3. These goals are:

(1) To investigate whether type of instruction (implicit vs. explicit) has an effect of type of knowledge (implicit vs. explicit) as measured on a timed and untimed grammaticality judgment test.

(2) To find out whether the learners' proficiency level affects the acquisition of L2 Spanish knowledge.

(3) To expand the line of research regarding the search of reliable measures of second language implicit and explicit knowledge.

(4) To investigate the relationship between the measures of implicit and explicit knowledge with the measure of L2 achievement.

(5) To investigate whether age has an impact in the acquisition of L2 knowledge in Spanish.

(6) To find out whether type of instruction has an effect of transfer L1 English-L2 Spanish.

To fulfil these goals, we carried out a macro view of interlanguage development over the course of a winter trimester.

1.3. Potential Contributions

This study aims to bring some light into the differential learner procedures of L2 Spanish knowledge by adolescents over a specific period of time.

According to that, this study represents an advance in the study of the relationship between implicit and explicit methods of instruction and implicit and explicit L2 knowledge. As we will see more in depth in Chapter 2, previous research has been focused on theoretical implicit/explicit learning (J. H. Hulstijn, 2005), implicit/explicit knowledge (Bowles, 2011; R. Ellis, 2005a; Gutiérrez, 2012) and implicit/explicit instruction (Goo et al., 2015; J. M. Norris & Ortega, 2000; Scott, 1990). However, there is a gap in research attempting an approach that addresses these elements together.

Another important contribution of this paper is the obtainment of conclusions about the correlation between implicit/explicit methods of instruction and their effects into the language transfer. There have been several studies in connection with language transfer centered on specific aspects such as second language research (S. M. Gass & Selinker, 1983), cross-linguistic influence (Odlin, 1989), phonological awareness (Cisero & Royer, 1995; Durgunoğlu, Nagy, & Hancin-Bhatt, 1993), universal grammar (V. Cook, 1994; Vainikka & Young-Scholten, 1996), errors (Tomasello & Herron, 1989) and fossilization (Selinker & Lakshmanan, 1992). In the literature, Spada & Lightbown, (1999) attempted to relate instruction's methodology (explicit) and language transfer. The present study expands that line of research by incorporating both types of instruction, implicit and explicit.

Due to the specific characteristics of the L2 learners in this study (adolescents in a secondary school), this paper contributes singularly to develop the line of research of individual differences (Dörnyei & Skehan, 2003; Nippold, 2007; Robinson, 2001) and linguistic

environment in SLA (M. H. Long, 1996). The target population of this study (adolescents) have been under reported in the research community. This study aims to contribute to fill this gap.

Lastly, it is essential to reiterate the repercussions of this study in the classroom, where the effectiveness of the instruction, the type of knowledge obtained, the effects of the language transfer, and the learner IDs should be taken into consideration in order to enhance the acquisition of a L2.

1.4. Organization of the Study

The methodology and design of this study follows Mackey & Gass (2015) and Dörnyei (2007).

This study is divided into five different chapters. In Chapter 1 we address introductory aspects, like a brief explanation of the main points of this research, the goals and context under which this study is carried out, the potential contributions of it, the way this paper is organized and the definition of the main terms used.

In Chapter 2, I am reviewing the literature in relation to the main theoretical concepts in which this study is built upon.

In Chapter 3, I explain the methodology and mechanisms of the research conducted, mentioning important aspects of it such as materials, participants, research methods, and procedure for scoring and coding. Moreover, we describe some processes to ensure the validity and reliability of all the measures used. Lastly, we depict the statistical analysis adopted to assess the results obtained in the different tasks.

In Chapter 4, I report the results obtained, once the statistical analysis was performed to answer the five research questions.

Finally, in Chapters 5 and 6, I am describing the discussion and conclusions I have reached, taking into consideration the main findings obtained. The conclusions are related to previous theoretical and empirical studies and based on the cited findings. At the same time, I mention possible implications of this study in SLA theory and pedagogy, expressing the limitations and new directions for future research.

1.5. Definition of Terms

(1) Instructed SLA.

Loewen (2012) defines the concept: "instructed second language acquisition (ISLA) refers to the subfield of second language acquisition that investigates any type of second language (L2) learning or acquisition that occurs as a result of the teaching of the L2", (p. 1). In the literature, some proposals make a case against L2 instruction (Felix, 1981; S. D. Krashen, 1985), while others make it for instructed SLA (Goo et al., 2015; Granena & Long, 2013; M. H. Long, 1983; J. M. Norris & Ortega, 2001). Nowadays, the majority of the L2 research community accepts the effectiveness of instructed SLA (Benati & Angelovska, 2016; R. Ellis, 2015; Shintani, 2011; VanPatten & Williams, 2014; VanPatten & Rothman, 2014; VanPatten & Benati, 2015).

(2) Second language (L2) knowledge.

L2 knowledge is a construct related to the amount of information that an individual possesses in relation to a L2. L2 knowledge has connotations with the term proficiency. Proficiency is the ability of an individual to speak or perform in an acquired language. Several researchers approach the question of language proficiency from different perspectives. Some take into consideration the impact of proficiency on language testing (Bachman, 1990; Bachman

& Palmer, 1996) while others (Harley, Cummins, Swain, & Allen, 1990) stress the importance of the very nature of proficiency.

This study centers itself on knowledge of L2 grammar (Spanish determiners) assessed conforming the learner's performances.

(3) Implicit L2 knowledge.

The very origin of this term comes from Polanyi (1966) who first introduced the definition of tacit knowledge as opposed to explicit knowledge. Polanyi expresses the idea of tacit knowledge as the one that we know we have but we are not able to tell about it completely.

Later, (Bialystok, 1994) associates the possibility to know something in different ways with this type of knowledge.

Other authors relate specific characteristics to implicit knowledge: internalized, abstract (Sorace, 1985), unconscious (Seliger, 1983), or automatic (J. H. Hulstijn, Gelderen, & Schoonen, 2009).

According to R. Ellis (2006), "implicit knowledge is procedural, is held unconsciously, and can only be verbalized if it is made explicit. It is accessed rapidly and easily and thus is available for use in rapid, fluent communication", (p. 95). Ellis (2005) gives us a list of characteristics that define this type of knowledge: intuitive, procedural, variable but systematic, access to knowledge by means of automatic processing, nonverbalizable, potentially only within critical period. To measure it properly it is essential to do it under time pressure, focusing on meaning and trying to get responses according to feel. Recent investigations (Shiu & Spada, 2012; Suzuki & DeKeyser, 2015; Vafaee et al., 2016) on reliable measures of implicit knowledge have argued that those measures may be tapping highly automatized knowledge

(4) Explicit L2 knowledge.

“Explicit knowledge is held consciously, is learnable and verbalizable, and is typically accessed through controlled processing when learners experience some kind of linguistic difficulty in using the L2”, R. Ellis (2006, p.95).

According to different scholars (N. Ellis, 1994; R. Ellis, 2005a; J. H. Hulstijn, 2005), explicit knowledge has some key characteristics: it is conscious, declarative, anomalous and inconsistent, the access to knowledge is by means of controlled processing, verbalizable and learnable at any age.

The verbalizability as a reliable indicator of explicit knowledge has been criticized (J. Hulstijn, 2002). Therefore, it has been suggested to use the expression potentially verbalizable, since explicit knowledge can exist whether it can be verbalized or not.

Explicit knowledge refers more to the idea of understanding rather than internalizing (implicit knowledge).

At the time to operationalize explicit knowledge, it is recommended by some researchers (R. Ellis, 2004; R. Ellis, 2009; N. C. Ellis, 2005; J. H. Hulstijn, 2005) no time pressure, establishing a primary focus on form, encouraging metalinguistic knowledge and carrying out a form-focused instruction.

(5) Language transfer.

This concept refers to the mechanisms by which the learner’s existing linguistic knowledge affects the development of L2. (R. Ellis, 2015) talks about language transfer in these terms: “language transfer is said to occur when there is evidence that the linguistic features of one language influence those of another language”, (p.118).

This present study focuses on the relation between methods of instruction (implicit/explicit) and language transfer or being more specific, on finding out if those methods of instruction affect the language transfer.

As we will see in Chapter 2 more in detail, there are five types of factors that influence this phenomenon: linguistic, psycholinguistic, contextual, developmental, and individual.

Also, in relation to language transfer, the experimental tasks used in the present study are the same as in Montrul & Ionin (2012), namely, a truth- value judgment task (TVJT), a picture-sentence matching task (PSMT) and a sentence-picture acceptability judgment task (SPAT). In this study, the first task was used to answer the first four of our research questions. The other three tasks were designed to answer the last question of this paper, related to language transfer.

(6) L2 proficiency.

The proficiency level of L2 learners of Spanish in this study is determined as institutional enrollment, which accounts for five different levels (1-4 and AP), with two separate tracks (regular and honors). These levels are taught in a private secondary school, within a non-intensive program in its Department of Foreign Languages. To confirm the proficiency level, learners completed a questionnaire with grammar and vocabulary sections included as fillers in the first of the tasks designed for this study. Two groups of Spanish 1 regular were assigned as lower proficiency and two groups of Spanish 3 Honors were grouped as of higher proficiency for the purposes of this study.

Spanish classes meet two or three days a week depending on a rotatory schedule (i.e., if a group meets twice in each week, the next one will meet 3 times and vice versa). The time of each class is 75 minutes.

(7) Learner individual differences (IDs).

The study of IDs has drawn a lot of attention in SLA research. The construct of IDs focuses in the evident genuineness and particularity of every human being. We all as individuals possess specific characteristics that influence our learning outcomes.

Dornyei (2005) defines IDs: “dimensions of enduring personal characteristics that are assumed to apply to everybody and on which people differ by degree”, (p.4). In our study, we focus on age as one of the factors that affect the IDs among the participants in our research.

Chapter Two: Review of Literature

2.1. Second Language Acquisition Research.

2.1.1. Introduction.

The field of SLA witnessed a great progress in the 1960s. In the next two decades, the discipline became more systematic, growing enormously and hosting a great variety of studies and different theories.

Second language learning and second language acquisition are the process by which people learn a second language (L2). This distinction (learning vs. acquisition)[4] has been accepted in the literature (S. D. Krashen, 1981; Leow, 2015). SLA also refers to the academic discipline that studies that process. This discipline is a sub-category of applied linguistics and it is related to psychology, cognitive psychology and education.

The term *acquisition* was originally created to stress the non-conscious nature of the learning process.

Thus, **language learning** refers to *conscious* knowledge of a second language, (being able to know the rules, to discuss about them), while **language acquisition** refers to a *subconscious* mechanism where we are not consciously aware of the rules of the specific language that we are studying. In this sense, we have a 'feel' for the correctness. Sentences feel 'right' or 'wrong' even though we do not know consciously what rule applies to the sentence or expression. According to this, language learning would be in connection with explicit learning and language acquisition with implicit learning since the latter is incidental and the previous one intentional.

[4] Krashen's theories have been very influential. For that reason, the distinction lasts even though it is widely considered today as an oversimplification by researchers.

R. Ellis (2015) makes another distinction between L2 acquisition and SLA. He claims that it is essential to differentiate between the object of study, 'second language acquisition or 'L2 acquisition' and the discipline that investigate it, 'SLA'.

Leow (2015) stresses the importance of the learning environment at the time to distinguish acquisition vs. learning. Regarding acquisition, he posits: "acquisition of a language takes place in the environment in which we learn our first language, surrounded by this language and used to communicate, read, share information, and so on", (p. 125). Then, he relates learning with a 'formal environment' where the explicit learning takes place.

Most SLA researchers agree on two main aspects:

a) Learning involves two psychological processes: explicit and implicit learning.

b) The competence in an L2 is primarily a matter of implicit knowledge, although both types of knowledge, implicit and explicit, predict general language proficiency.

L2 acquisition is an intricate process. It occurs after L1 acquisition and therefore, it receives the influences and effects of the first language. At the same time, while first language acquisition takes place from the very beginning of our lives, L2 acquisition can start at any age, being possible to become a L2 learner after having consolidated some learning strategies not accessible to L1 learners. Also, the learning context available is going to differ since L1 learners can enjoy a much more diverse environment than L2 learners, who in many instances have to remain in the classroom for instruction.

2.1.2. Definition

Following the R. Ellis' (2015) distinction between Second Language Acquisition 'L2 acquisition' as the object of the discipline SLA and the discipline itself, 'SLA', it is time to focus onto what we mean by L2 acquisition.

The knowledge of any language involves not only the competence but also the performance or use of it. Thus, if we are able to know some notions or rules about pronunciation and grammar and we are not able to communicate by using a connected discourse, we can't state that we know the language. Thus, for this paper, we recognize both, competence and performance, as the elements of language.

In the literature, it is frequent to make a differentiation between 'second' and 'foreign' language acquisition. 'Second language acquisition' refers to the learning of another language within a context where it is possible to have various scenarios to communicate. On the other hand, 'foreign language acquisition' refers to the learning that takes place in a classroom through instruction.

As we discussed earlier, 'acquisition' is a term that invokes an incidental learning process while 'learning' involves an intentional effort to study and learn a language. In this study, we will adopt a broad concept that embraces both terms.

Therefore, we can define 'second language acquisition' as the intentional and incidental efforts to learn the competence and performance of any language after the L1 in the classroom or in a more diverse learning setting.

2.1.3. A brief history of SLA

Research in second language acquisition relates to various disciplines such as *linguistics, sociolinguistics, psychology, neuroscience* and *education*. For this reason, most theories of second language acquisition are influenced by them. We can consider the second language acquisition as an interdisciplinary field.

Each of these theories has contributed to the advance and improvement of the language learning process. However, there is not a specific theory widely accepted as dominant by researchers.

There are two publications that are the starting point of the development of the modern study of SLA: *The Significance of Learners' Errors* by P. Corder (1967) and *Interlanguage*, L. Selinker (1972). Corder's article stated the existence of internal linguistic mechanisms as opposed to behaviorist theories[5], while Selinker argued that second language learners have their own linguistics systems which are independent from the first and second languages.

In the 1970's most of the researches kept discussing the approach of Corder and Selinker, positing different views in relation to behaviorist theories of language acquisition. During this time, there was a profusion of naturalistic[6] studies of English as a second language (L2).

By the 1980's, Stephen Krashen's Input Hypothesis also known as the monitor model, was predominant and widely accepted by researchers. This Input Hypothesis contains five hypotheses of second language acquisition: *input hypothesis, acquisition-learning hypothesis, monitor hypothesis, natural order hypothesis,* and *affective filter hypothesis*.

According to this theory, language acquisition is only possible through comprehensible input, language input that learners are able to understand. Language output is not considered influential on the learner's ability. Krashen claims that to develop an advanced competence is necessary to acquire subconsciously that language.

Krashen's hypotheses have been very influential but at the same time, have received criticisms, (Gregg, 1984; McLaughlin, 1978, 1987; Gass & Selinker, 1983). These hypotheses

[5] These theories are based on the idea that our behavior is consequence of our environment. In relation to the learning process, behaviorists consider learners as passive individuals, responding to the environment stimuli. The learner development is affected by positive and negative reinforcement.

[6] Concept that is defined in VanPatten & Benati (2015)

could not cover important processes in SLA. Research in the 1980's tried to fill in some important gaps. Remarkable during these years is the discussion in the literature regarding the construct of universal grammar (Clahsen & Muysken, 1986; DuPlessis, Solin, Travis, & White, 1987). In connection with that, it is essential to point out White's work on learner's competence (1987) and the relationship between universal grammar and second language acquisition (1985, 1989). At the same time, Pienemann (1984, 1989) considered the practical and theoretical challenges of teaching a L2 from different perspectives, namely, psychological and psycholinguistic.

In the 1990's, there were two main fields of research: (1) the development of linguistic theories of SLA based upon Noam Chomsky's *Universal Grammar* (V. Cook, 1994; Epstein, Flynn, & Martohardjono, 1996; Hawkins & Chan, 1997; Tomaselli & Schwartz, 1990; White, 1985; White, 1987; White, 1989); (2) psychological studies such as skill acquisition theory[7] and connectionism, for which learning is the result of the relationship between stimulus and response[8]. Apart from that, new theories were established: The Interaction Hypothesis by Michael Long (1996), the Output Hypothesis by Merrill Swain (1993, 1995) and the Noticing Hypothesis by Richard Schmidt (1992, 1995), among others.

In the 2000's research follows the same path as in the 1990's. However, we can proclaim that there are two main fields interested in doing SLA research: *linguistics*[9] or the scientific study of language, and *psycholinguistics* or the study of the psychological and neurobiological factors that let individuals acquire, understand, use and produce language.

2.1.4. SLA theories

[7] For this theory, SLA must be learned in an identical way as any other skill such as learning how to play the guitar or to ride a bicycle. Practice was considered to be the main factor of language acquisition.

[8] The main criticisms (Fodor & Pylyshyn, 1988; Pinker & Prince, 1988) about this theory were based in the idea that it was just a continuation of behaviorism.

[9] There are three main aspects to be studied: language form, language meaning and language in context.

Theories of second language acquisition are different hypotheses and theoretical representations in the field of SLA whose main purpose is trying to depict how individuals learn a second language. Research in SLA is related to several disciplines, namely, linguistics, sociolinguistics, psychology, neuroscience, and education. Therefore, most of these theories can be presented as having roots in one of these fields. We can consider them as guiding lights in our fascinating process of discovering how L2 acquisition takes place. However, not a single of these theories has been accepted as conclusive to explain these processes and representations.

- Semantic Theory.

According to this theory, the acquisition of meaning is the key task. Slavakova (2010) differentiates four types of meaning:

a) Semantic: it is the meaning from the specific words.

b) Lexical: it is the meaning of a word considered apart from its grammatical context or the sentence in which may be included. Slavakova (2010) states that "lexical meanings are stored in our mental lexicon", (p.232).

c) Grammatical: the meaning of a word by reference to its function within a sentence rather than to a world outside the sentence.

d) Pragmatic: it is the meaning from the context. It is necessary to take into consideration some additional knowledge related to the word or expression, or external circumstances that will help to obtain the true intentions of the communication. We agree with Reyes (1990) and Bajtin (1995) on the necessary and essential function that pragmatics must carry out to reaffirm the linguistic conduct. That function is to complement, to accompany the other meanings to get an effective significance.

The acquisition of meaning is of paramount importance in the development of capabilities for second language learners. Without meaning, communication is compromised. But not only meaning play an important role in communication. We should not neglect the form: orthography, morphology, and syntax help us understand and comprehend the ultimate meaning to communicate properly.

- Sociocultural Theory.

The approach of this theory in relation to language acquisition is based on the idea that children are influenced to learn languages by building a social world, which will help them to develop their language. This is a social-cognitive model.

This theory owes its foundations to Lev Vygotsky. Vygotsky, a psychologist and firm believer in social constructivism, created the pillars of the interactionist proposal of language acquisition. According to Vygotsky, the interaction in our social ambit is fundamental in our learning process. He is well known by his *Zone of Proximal Development* (ZPD) (Vygotsky, 1925; Vygotsky, 1930). This concept can be defined by the difference between what a learner can do without help and what he can do with help. It is precisely in that spot, where the learner develops his new language by interacting socially. Most of his works are based on the relation between the child, then the adolescent and the adults in a social environment and how the psychological aspect of the human condition helps in the acquisition of languages.

Jerome Bruner is the most important successor of Vygotsky's theories. Bruner (1985) claimed as Vygotsky, that social interaction is essential in the development of cognition in general and of language in particular. He argued that there is a crucial part of that social interaction that is represented by the relation parent-infant. Bruner developed through his

research his social constructivist theory of meaning which affirms that meaningful participation and meaningful use of language, generates a meaningful shared output.

It is important to mention as well James Wertsch (1984, 1986, 1988) who wrote different papers with regard to Vygotsky's work about the problems of language and thought from a sociocultural perspective.

- Stimulus-Response Theory.

According to the behaviorist approach (Skinner 1938, 1953; Watson 1913, 1925), popular during the first half of the 20th century, language learning was explained by the principle *stimulus-response*. All behavior (language learning) is a product of the external stimuli. Therefore, language learning is conditioned by external factors. Learners are essentially passive, responding to environmental stimuli. There is no need to consider any internal mental state or consciousness. In this model, children learn their mother tongue by imitating, listening and repeating what others around them are saying.

- Universal Grammar (UG).

The stimulus-response theory was criticized by Noah Chomsky (1959, 1972) for whom the acquisition of any language can't be based on the idea of creating a repertoire of responses to stimuli, simply because it is not possible to predict or pre-determine the different ways how someone is going to react or respond before a specific circumstance. Chomsky's theory suggests that learning a language is possible for the presence of an innate knowledge that we all possess and the propensity that our brains hold for the different structures of language. According to Chomsky's theory, the majority of the languages in the world[10], around 7000, despite their genuineness, share a series of syntactic rules and structures derived from a universal grammar.

[10] According to the web www.ethnologue.com, a web-based publication that provides information on the number of languages spoken in the world and their different dialects, in its 18th edition states that there are at the present time (2015), 7472 languages.

Chomsky posits that we all have linguistic abilities and the capability to learn grammar without the need of being taught. He claims that this possibility is ingrained in our brains, available to anyone. Through observation is possible to identify our innate abilities and the linguistic characteristics shared by all languages. It is one of the most influential theories in the field of linguistics. Under the Universal Grammar hypothesis, some researchers put forward the idea of Parameter resetting (Tsimpli & Roussou, 1991). Others have discussed the question of to what extent functional categories are universally realized and which are the implications for theories of L2 acquisition (Bobaljik & Thráinsson, 1998; Thráinsson, 1996; Webelhuth, 1995).

Critics of this theory postulate that UG doesn't refer to any psychological processes that take place at the time to learn a second language.

- Input Hypothesis.

It is a group of five hypotheses[11] regarding second language acquisition. It was developed by Krashen (1985).

'Input' constitutes the amount of information presented to a language learner. This information can be oral or written and while it is used by the learner, his interlanguage[12] expands in the process of L2 acquisition.

Krashen (1985) claimed that L2 acquisition is completely input-driven. Therefore, output doesn't play any important role in acquisition. Krashen proposes that language acquisition occurs only when learners receive an input that is comprehensible and contains structures that are not fully understood, representing the 'i+1' level. Furthermore, he adheres to the Chomsky's innate position of government and binding theory and concept of UG. Also, Krashen (1982) believes

[11] Mentioned previously in this Chapter, A brief history of SLA.

[12] Selinker (1972) created this term to refer to the knowledge developed by a learner of a second language which is independent of both L1 and the target language.

that the L2 acquisition process can get blocked by the presence of emotional variables, such as anxiety, self-esteem or motivation (affective filter hypothesis).

Later, Swain's (1985) Output Hypothesis came in response as a reasonable review of this construct.

- Noticing Hypothesis.

Schmidt (1994, 2001) has demonstrated the importance of conscious attention to linguistic forms in the input. His noticing hypothesis claims that "people learn about the things they attend to and do not learn much from the things they do not attend to", (2001, p. 30). In the development of his hypothesis, he makes a differentiation between 'perception' and 'noticing'. He acknowledged that while perception doesn't necessarily imply consciousness, noticing needs to be conscious. Schmidt also posited a process he called noticing the gap, which occurs when the L2 learner is able to notice differences between his own efforts to produce the L2 and the native-speaker input representations.

Tomlin & Villa (1994) developed another theory of attention in which they distinguished three attentional processes: (1) alertness; (2) orientation; and (3) detection. Tomlin and Villa sustained their theory of attention on two claims. The first is that detection is possible without alertness and orientation. The second claim is that all three attentional processes can happen without awareness.

The main difference between Schmidt's noticing hypothesis and Tomlin and Villa's theory of attention lies in what happens when detection occurs. Tomlin and Villa consider that is possible further processing once the information has been detected. However, Schmidt's notion of noticing conveys detection and what learners do with what they have detected.

The noticing hypothesis has received some criticism (Truscott, 1998) based upon the idea that this hypothesis should be restrained to describe metalinguistic knowledge and not overall language competence.

Some researchers (M. H. Long, 1996; Swain & Lapkin, 1995) have accepted that noticing is facilitative of acquisition. Conscious attention has become an essential element that connects input to acquisition.

- Interaction Hypothesis.

It is part of the human nature to interact and communicate with one another. This is what some researchers (N. Lee, Mikesell, Joaquin, Mates, & Schumann, 2009) named 'interactional instinct'. According to this hypothesis, learners learn a language to interact with others. In this respect, Hatch (1978) concluded that syntactical features are a consequence of the interaction in which they are involved, not the other way around.

Long (1981, 1983) used the expression 'negotiation of meaning' to refer to the process that learners go through to reach a clear understanding of each other by helping them to comprehend and direct their attention to specific linguistic features. Asking for clarification, rephrasing, and confirming what you think you have understood are all strategies for the negotiation of meaning. In the classroom, information gap activities (i.e. jigsaw readings or listening, group story building, spot the difference, communicative crosswords) give learners the opportunity to develop their communicative competence through negotiation of meaning as they share information.

This proposal has been very influential in the SLA, leading to many studies with regard to the interactional modifications that take place in the negotiation of meaning.

- Output Hypothesis.

Swain (1985) proposed this hypothesis. She stated that meaningful output is as necessary to language learning as meaningful input. Thus, it is important for learners to produce 'pushed output' to attain a high level of competence in the L2. The output hypothesis was formulated as a result of Swain's immersion French program research in Canada, where she noticed that her students, despite receiving comprehensible input since they were little, continued making grammatical mistakes and multiple inaccuracies in the use of the target language. Her research proved that input alone is not enough in L2 acquisition. It should come accompanied by constant production in order to make sure that the output is also comprehensible.

- Competition model.

This theory claims that learners use linguistic cues to get meaning from language, rather than relying on linguistic universals. Several scholars (MacWhinney, Bates, & Kliegl, 1984) developed a line of research focused on how learners organize their language knowledge. In their study, investigated how speakers of different languages (i.e. English, Italian and German) analyze sentences for meaning. These researchers found that the speakers of the above languages, presented different models to identify the subjects of transitive sentences containing more than one noun. Namely, speakers of German used morphological agreement; English speakers relied on word order; and Italian speakers relied on agreement and stress. Given these results, the above mentioned scholars along with others(Kail, 1989; MacWhinney & Bates, 1989) proposed that when acquiring a L2, learners tend to receive competing cues and must determine which cues are the most significant for meaning.

- Dynamic Systems Theory (DST).

Learners show variability in their use of the second language at any phase of advancement. R. Ellis (2015) justifies this phenomenon in the fact that learners sometimes rely

on correct pieces of information and at other times on their interlanguage rules. Also, variability is possible because "learners do not abandon old forms when they acquire new ones", (R. Ellis, 2015, p. 10).

DST reviews the interaction between internal and external factors related to L2 learners and their effects to the language target.

This is an eclectic theory since it refuses to focus on just one factor. Instead, it considers different patterns out of interactions. Also, DST examines the L2 learner as a complex scheme, where all the factors related to L2 acquisition are intertwined. Therefore, changes in one variable will have repercussions on the rest of the variables (Verspoor, De Bot, & Lowie, 2011; Verspoor, 2013).

The DST approach of variability in L2 acquisition differs to the sociolinguistic approach (R. Ellis, 1985; E. Tarone, 1983; Widdowson, 1978), which focuses more on the discovery of external factors. DST considers the procedural and temporary aspects of variability as essential, investigating the time and mechanisms connected with the process of L2 development. This theory sees the target language as an interconnected system, integrated by different sub-systems. In consequence, the variation of one sub-system will have effects in other sub-systems.

- Declarative and procedural model.

This model tries to explain how language information is stored for its ulterior use. It is based on Anderson's Adaptive Control of Thought (ACT) (Anderson, 1990). This is a model that focuses on how the information is processed for its ulterior use being one of the most influential in SLA. Anderson explains how at the time to speak a L2 we normally follow some rules (declarative knowledge) while native speakers speak directly (procedural knowledge). Later, Ullman, (2004) tried to develop this approach. He states that language function is influenced by brain systems.

Specifically, this model claims that the mental lexicon of memorized knowledge depends on the temporal lobe substrates of declarative memory whereas the mental grammar depends on a different brain system where underlies procedural memory. At the same time, this model posits that not only language learning, but also its storage and use depend heavily on declarative and procedural memory.

2.1.5. Summary

It is important to make the distinction between language learning and language acquisition and its relation with implicit and explicit learning.

At the same time, for the purposes of this study, we defined 'second language acquisition', supporting the R. Ellis (2015) differentiation between 'SLA' as the discipline that studies the second language acquisition and 'L2 acquisition' as the object of study.

Also, we had the opportunity to review a brief history of SLA along with the main SLA theories, showing how diverse, fruitful and dynamic SLA is, incorporating new lines of research and developing others already created.

2.2. Implicit and Explicit L2 Knowledge

2.2.1. Introduction

Implicit and explicit L2 knowledge are two main constructs of this study. We seek to investigate the relationship between methods of instruction and L2 knowledge. To be able to find out that impact, we need to measure how much knowledge the learners gained between two points in time: one before instruction and another one, after instruction.

Implicit/Explicit L2 knowledge is an accepted dichotomy in the literature (Elder & Ellis, 2009; N. C. Ellis, 2008; R. Ellis, 2005a; R. Ellis, 2006; R. Ellis, 2015). It has been said (R. Ellis,

2015) that implicit knowledge results from implicit learning and explicit knowledge results from explicit learning.

A reported problem related to studies of implicit and explicit learning is the lack of acceptable measures of second language implicit and explicit knowledge. DeKeyser (2008) refers to it in these terms: "the crux of the issue is finding measures of implicit and explicit learning that are both pure and sensitive, so that they show exactly how much is learned through either process, nothing more and nothing less", (p.319). In connection with this, considerable efforts have been made in the last decade to ensure that researchers can provide reliable and valid measures of language knowledge (Gutiérrez, 2012; Gutiérrez, 2013; J. H. Hulstijn, 2005; J. M. Norris & Ortega, 2012; Shiu & Spada, 2012; Suzuki & DeKeyser, 2015; Vafaee et al., 2016). In this section this problematic is reviewed, along with some other aspects related to implicit and explicit L2 knowledge.

2.2.2. Concept

In this study, we are adopting a cognitive SLA approach which considers second language acquisition as a conscious and reasoned thinking process, implying the intentional use of learning strategies. Cognitive SLA relies on cognitive psychology to investigate the internal procedures involved in the representation of L2 knowledge and the way in which this knowledge develops over time. For this reason, the distinction between implicit and explicit learning has been influenced by the cited discipline.

It is important to comprehend the differences between these two types of learning mechanisms due to their repercussions in L2 acquisition. N. Ellis (2015) defines both, implicit and explicit learning:

> Implicit learning is acquisition of knowledge about the underlying structure of a complex stimulus environment by a process which takes place naturally, simply and without conscious

operations. Explicit learning is a more conscious operation where the individual makes and tests hypothesis in a search for structure. (p.2)

According to these definitions we can deduce that implicit learning is incidental and explicit learning intentional[13], which relates to the earlier mentioned differentiation by Krashen (1981) between 'acquisition' and 'learning'. In this sense, implicit knowledge would be considered *acquired* while explicit knowledge would be *learned*. Bialystok (1981) would refer to *unanalyzed* and *analyzed* knowledge. Unanalyzed linguistic knowledge uses a formulaic language which consists of verbal expressions that are firm and would be related to implicit knowledge. In contrast, analyzed knowledge would consist of grammatical and lexical units over which there is a process of analysis to produce different utterances. This type of knowledge would be explicit knowledge. Another conceptual approach mentioned earlier (Chapter One) is represented by Anderson (Anderson, 1990) and his Adaptive Control of Thought (ACT), which distinguishes between *declarative* and *procedural* knowledge. The first would be much slower and typical of L2 learners, and the second one, would be related to native speakers. As we can see, this model resembles the implicit (procedural)/explicit (declarative) dichotomy.

In the theoretical field, there are also discrepancies at the time to conceive the implicit knowledge. Symbolic theories claim that the pillars that sustain the implicit knowledge are based on rules. Connectionist theories argue that implicit learning is a mechanism that works through different combinations of sounds, words and pieces of language that have been internalized through frequent use in the input. According to these theories, learning a language is not about learning rules, but being able to learn the connections between different segments of information in the input.

[13] For further reading, please see Incidental and intentional learning (J. Hulstijn, 2008)

Both, symbolist and connectionist theories believe in the implicit knowledge as primary since is the knowledge that is acquired naturally during L1 acquisition and is needed for proficient communication.

As R. Ellis (2015) posits: "the fundamental difference between implicit and explicit knowledge lies in whether learners are aware of what they know", (p.173). Bringing back R. Ellis (2006) definition of explicit knowledge as "held consciously" we can infer that in case of implicit knowledge, learners are not aware of that knowledge and in case of explicit knowledge, learners would be aware of it.

Based on the last three decades of research, the implicit and explicit knowledge has been respectively featured as intuitive, conscious; automatic, slow; procedural, declarative; not verbalizable, often verbalizable; systematic, inconsistent; oriented to meaning, conforming to norms (N. C. Ellis, 1994; N. C. Ellis, 2008; R. Ellis, 2006; R. Ellis, 2009; Godfroid et al., 2015).

From a practical point of view, irrespective of being native speakers or L2 learners, we use both types of knowledge. In written communication, we tend to use more explicit knowledge while in a conversational context, we rely more on implicit knowledge.

2.2.3. Measurement of L2 knowledge

It is essential to make sure that we assess properly the amount of L2 learning that the individuals are carrying out. In order to fulfill this premise, we have to adopt measurements of implicit and explicit knowledge that are reliable. DeKeyser (2008) puts it in these words: "it is important then, that tests of implicit and explicit learning be equally sensitive, and that they probe the kind of knowledge that underlies performance", (p. 319).

Some researchers (Shanks & John, 1994), allude to these two requirements by DeKeyser as the *sensitive criterion* and the *information criterion*. They claim that tests of implicit learning

are more sensitive than tests of explicit learning, which are based most of the time on verbalization. Reingold and Merikle (1988) pointed out the controversial aspect of this sensitivity criterion since in their view it is not feasible to design tests of implicit and explicit learning that are sensitive in the same degree. For this reason, they proposed a solution by which if both measures of implicit and explicit knowledge are similarly sensitive to conscious language and the implicit measure shows more knowledge than the implicit one, then we could deduce the absence of awareness in the processing.

Ulterior studies (R. Ellis, 1994a; R. Ellis, 2004; R. Ellis, 2005a; Han & Ellis, 1998) pointed out seven criteria to account for explicit and implicit knowledge:

1. Degree of awareness. This consists of the capacity by which learners can distinguish their linguistic knowledge. More awareness would be an indication of explicit knowledge.

2. Time available. This criterion is based on the presence of time constraint or the absence of it. A task under time pressure is a measure of implicit knowledge.

3. Focus of attention or whether the task is designed primarily to develop fluency or accuracy. The search of accuracy in a task would render an explicit measure.

4. Systematicity analyzes if learners are consistent or changeful in their answers to task. Being more consistent would reflect the presence of implicit knowledge.

5. Certainty is a criterion of making sure that a specific task conforms to target language norms. Some learners are more confident in their explicit rules and others tend to rely more on their implicit knowledge (R. Ellis, 2009).

6. Metalanguage is a criterion related to explicit knowledge.

7. Learnability of implicit and explicit knowledge. This suggests that a child L2 learner displays a larger amount of implicit knowledge, while older individuals, (i.e. adolescents, adults), are more likely to express higher levels of explicit knowledge.

R. Ellis (R. Ellis, 2005a) develops the operationalization of these criteria (i.e. focus of attention: focus on meaning, implicit; focus on form, explicit) which have been considered as beneficial by some scholars (J. M. Norris & Ortega, 2012) in order to improve the reliability of the mechanisms to measure the learners L2 knowledge. As a consequence, they have been used in several studies at the time to operationalize the constructs of implicit and explicit L2 knowledge (R. Ellis, 2004; R. Ellis, 2005a; R. Ellis, 2009; Han & Ellis, 1998).

Han and Ellis (1998) analyzed a series of tests to investigate ways of measuring correctly implicit and explicit L2 knowledge. At the same time, they tried to find out the relationship between these measures and measures of general language proficiency.

To measure L2 knowledge, five tests were implemented, three of them as measures of L2 implicit knowledge (a timed oral production test, an elicited oral imitation test, a timed grammaticality judgment test) and two as measures of explicit knowledge (an untimed grammaticality judgment test, a metalinguistic knowledge test).

To measure the English proficiency, two more tests were administered: the TOEFL and the Secondary Level English Proficiency test (SLEP).

These measures were focusing on the knowledge of verb complementation in English.

These scholars carried out a factor analysis which revealed a two-factor solution determining that the measures under time pressure could be considered as of implicit knowledge and the measures with not time constraint as of explicit knowledge. Plus, they also found that

both factors correlated with scores on the SLEP. However, only one measure of explicit knowledge (untimed grammaticality judgment test) correlated to the scores of TOEFL.

DeKeyser (2008) adds some criticism arguing that the results relate to just one structure. Therefore, it is difficult to generalize them. At the same time, he criticizes the mere nature of those measures since they are not "a pure measure of either implicit or explicit knowledge", (p.327).

Since the year 2004, a succession of tests has been administered to adult L2 English learners to review the validity and reliability of the above-mentioned measures (Elder & Ellis, 2009; R. Ellis, 2004; R. Ellis, 2005a). Their reliability has been contrasted with Cronbach's alpha estimation. Their validity has been reviewed by carrying out exploratory and confirmatory principal component factor analyses (R. Ellis & Loewen, 2007; Gutiérrez, 2012; Gutiérrez, 2013; Isemonger, 2007). According to it, the above measures of implicit and explicit knowledge are valid.

Bowles (2011), Gutiérrez (2012a) and Serafini (2013) have investigated in their studies the R. Ellis validity of L2 knowledge measures for L2 Spanish learners. Bowles (2011) tries to validate the battery of tests used by R. Ellis (2005) with native speakers and L2 learners of English but with Spanish as a target language. According to the results, Bowles (2012) supports the construct validity of the R. Ellis (2005) tests, "in a different language and with another population of learners", (p.22).

Gutiérrez (2012) examines the nature of the knowledge representations of 53 college students of L2 Spanish. In his study, the participants carried out a language background questionnaire; a timed grammaticality judgment test (TGJT), with the purpose to be a measure of implicit knowledge; an untimed grammaticality judgment test (UGJT) and a metalinguistic

knowledge test (MKT) with the purpose to be measures of explicit knowledge. To check the reliability and validity of these measures, Gutiérrez (2012a) uses Cronbach´s alpha for reliability and performs a principal component analysis and two confirmatory factor analyses. According to the results obtained, these measures proved to be reliable and the grammatical sentences in the timed and untimed grammaticality judgment test were considered to be measures of implicit knowledge while the ungrammatical sentences in both grammaticality judgment tasks and the metalinguistic knowledge test were considered to be measures of explicit knowledge.

Serafini (2013) also carries out a principal component factor analysis and a confirmatory principal component factor analysis following (Bowles, 2011; R. Ellis, 2005a; Gutiérrez, 2013). The results indicate that the validity of these measures of L2 knowledge vary according to the different proficiency of learners.

Yet, recent investigations (Shiu & Spada, 2012; Suzuki & DeKeyser, 2015; Vafaee et al., 2016) have argued that measures of implicit knowledge may actually be tapping highly automatized knowledge, i.e. automatized explicit knowledge. At the same time, recent studies on GJTs validation (Granena & Long, 2013; Vafaee et al., 2016) question the manipulation of time conditions or the grammaticality of the sentences as reliable mechanisms to render distinct measures of L2 knowledge.

These studies represent a step in the right direction towards the goal of obtaining valid and reliable measures of L2 knowledge, which help both researchers and educators implement strategies to make the L2 acquisition more effective.

The design of this study follows the factor-analytic approach by R. Ellis and his colleagues in their attempt to develop a test battery to assess implicit and explicit knowledge, which yielded a two-factor solution, interpreted as evidence of relatively separate knowledge

constructs. Thus, in the present paper we are using one measure for implicit knowledge (Timed Acceptability Judgment Task) and another one for explicit knowledge (Untimed Acceptability Judgment Task).

2.2.4. Summary

It is essential to differentiate between implicit and explicit L2 knowledge to develop mechanisms to obtain valid and reliable instruments of measurement. Without those instruments, it won't be feasible to test the relationship between the two types of knowledge. This aspect has been tackled by the interface hypothesis and constitutes itself a central focus within the SLA discipline. The efforts to develop those instruments to prove the validity and reliability of testing measures of L2 knowledge failed in opinion of some scholars (Douglas, 2001). Others (R. DeKeyser, 2008; R. Ellis, 2005a; N. C. Ellis, 2005; Erlam, 2006; J. H. Hulstijn, 2005) recognize the weakness that those represent in the field.

In that sense, this study unites forces to connect different aspects related to L2 acquisition by bridging implicit/explicit L2 knowledge with implicit/explicit L2 instruction, in a formal educational setting with adolescents.

2.3. The Role of Implicit and Explicit Methods of Instruction

2.3.1. Introduction

All types of language instruction involve some mechanisms of intervention to enhance the learning of a L2. Instructed L2 language learning is different from the naturalistic L1 language learning and differs also from the untutored L2 language learning.

In comparison with other lines of investigation, studies on instructed SLA can be considered relatively as newcomers. However, at the end of the 20th century and the beginning of the 21st, SLA field witnessed a profusion of studies related to instructed SLA research (C.

Doughty & Williams, 1998b; Williams & Doughty, 1998), classroom language learning and research methodology (Chaudron, 2003). Recent meta-analysis have also contributed to this line of research (Goo et al., 2015; Shintani, 2015a; Spada & Tomita, 2010)

In the literature, there has been and still is a debate whether second language instruction makes a difference or not. Some authors (Felix, 1981; S. D. Krashen, 1985), advocate against any kind of L2 instruction while others (C. Doughty & Williams, 1998b; Huebner, 1983; M. H. Long, 1985; Oskarsson, 1973; Spada & Tomita, 2010) consider that the difference exists.

Instructed SLA requires two kinds of intervention: direct and indirect. Direct instruction (R. Ellis, 2015) : "involves providing learners with explicit information about the target of the instruction, often together with opportunities to practice the target" (p. 241). This refers to explicit instruction. On the other hand, indirect instruction (R. Ellis, 2015) "involves setting up opportunities for learners to learn without specifying what the target of the instruction is" (p. 241). This refers to implicit instruction.

While receiving implicit or explicit instruction, attention can be centered on isolated language forms or on meaning. There is also the possibility that there would not be any attention while the process of instruction takes place. In this regard, we can mention in the literature a distinction between *focus on form*, *focus on forms* and *focus on meaning (*M. H. Long, 1991). This distinction is taken into consideration by Doughty & Williams (1998):

Focus on form (FonF): this approach involves the effort to direct the learner's attention to a language form while the student is mainly focused on meaning (i.e. trying to communicate to someone else).

Focus on forms (FonFs): the objective is to help students learn specific language forms by making the linguistic target explicit.

Focus on meaning (FonM): this approach excludes any focus on any formal elements of language. It is centered purely on the meaning of a structure (M. Long, 1991; M. H. Long, 1998).

According to the above information, it could seem that *focus on form* involves implicit instruction and *focus on forms* explicit instruction. However, implicit instruction doesn't require a main focus on meaning. On the other hand, explicit instruction can use activities in which learners must focus on meaning.

The operationalization of the implicit and explicit methods of instruction can be seen as a process to improve the input received by learners in order for them to elicit forms conducive to obtain practical meaning and function.

Norris & Ortega (2000) operationalized the construct of L2 instruction in five different types of instruction: explicit, implicit, FonF, FonFs and FonM. Doughty & Williams (1998) used a criterion based on the degree of obtrusiveness of attention to form during instruction.

In the following sections, I am going to address more in detail these methods of instruction, their specific types and the comparison between them.

2.3.2. The role of explicit instruction

As we are seeing, L2 explicit instruction is the one in which rules about language are explained (deductive / metalinguistic) to students or when learners are directed to attend to forms and arrive at rules (explicit induction), (C. J. Doughty, 2008). Therefore, this type of instruction fosters intentional learning of concrete L2 structures and implies the use of explicit information about the target forms.

At the same time, both, FonF (C. Doughty & Williams, 1998a; C. J. Doughty, 2008; C. Doughty & Williams, 1998b) and FonFs can be considered either implicit or explicit. Therefore,

the approach of explicit instruction cannot be uniform since it can be delivered through a series of different ways and based on various theoretical frameworks implying diverse activities.

Before addressing the specific types of instructional approaches, it is important to point out a distinction between deductive and inductive explicit instruction and review the relationship between explicit and implicit knowledge according to the interface hypothesis.

In deductive explicit instruction, learners are given metalinguistic information in relation to the structure that is being taught. In inductive explicit instruction, no metalinguistic information is given. Both, deductive and inductive instruction differs in terms of their practice activities, since they can be focused on production or comprehension, or both.

Previously, we mentioned three types of relationships between explicit and implicit knowledge, which were outlined through the interface hypothesis. In this chapter we are going to view six explicit instructional approaches that include two of these positions: the *strong interface position*, which acknowledge the possibility that explicit knowledge can develop into implicit knowledge and the *weak interface position*, which considers explicit knowledge as facilitator of implicit knowledge but doesn't accept the possibility to transform itself into implicit knowledge.

2.3.2.1. Instructional approaches

Presentation Practice Production instruction (PPP).

This type of instruction is based on the skill-learning theory (R. DeKeyser, 1998). According to it, learning a language doesn't hold any specificity in comparison to any other kind of learning. This instruction represents the most common approach in teacher guides (Richards & Rodgers, 2014; Scrivener, 1994; Ur, 1999).

In this method of instruction, the presentation of explicit information about the target structure is the starting point. It is believed that declarative knowledge through practice ends up

becoming automatic. The mission of this type of instruction (R. Ellis, 2015) is "to facilitate this process by first providing learners with explicit knowledge of a target feature and then, through practice, facilitating the cognitive changes needed for automatic processing", (p. 244). As we can infer, PPP accepts a strong interface between implicit and explicit knowledge. Some critics argue that the resulting knowledge might not be implicit knowledge, but still declarative knowledge accessible in a faster manner (R. Dekeyser, 2003), while others (J. Hulstijn, 2002; M. Paradis, 2009) posit that there are limits by which automatic explicit knowledge can become implicit knowledge.

We can mention several studies investigating the effects of PPP whose overall results show that explicit instruction and practice helped to obtained gains over time. These gains were palpable when the target structures included grammar (Harley, 1989; Housen, Pierrard, & Van Daele, 2005), vocabulary (Shintani, 2011) and pronunciation (Saito & Lyster, 2012).

Integrated explicit instruction

The framework of this method of instruction is based on the Transfer Appropriate Processing theory (Lightbown, 2008). According to this, the explicit explanation is implemented in communicative practice activities. To make sure that the explicit explanation is as effective as possible it must be delivered when communication happens since it is believed that in that precise time, learners are more likely to recall it.

In the literature, we can cite a study where both, isolated and integrated explicit instructions were compared (Spada, Jessop, Tomita, Suzuki, & Valeo, 2014). This study reports that both ways of instruction are effective. However, it seems that isolated instruction may benefit explicit knowledge while integrated instruction may be more advantageous for the expansion of implicit knowledge.

This type of instruction is deductive and has a strong interface position since recognizes the possibility that explicit knowledge may become implicit knowledge.

Concept-base instruction

This type of explicit instruction is based on the Sociocultural theory (Lantolf, 2006; Lantolf, Thorne, & Poehner, 2015). Following this method of instruction, learners are given scientific concepts that explain thoroughly the connection between form and semantic and practical application. The explicit instruction provided based on scientific grammatical features is followed by oral and written communicative activities.

A study (Negueruela & Lantolf, 2006) investigated this explicit method of instruction in which learners were presented a flow chart with a series of questions to help them understand better. Then, learners had to explain orally for six times the information on the chart while doing some oral and written activities based on the target features. It was expected by carrying out this task that the learners would incorporate into themselves the information given to be able to access it automatically later when communicating.

The results of this study show that scientific organized instruction may help learners evolve explicit knowledge. However, it doesn't support the statement that this method of instruction fosters implicit knowledge of the target structures.

In this case, the general type of explicit instruction is also deductive with a strong interface position.

Comprehension-based instruction

This approach of instruction is based on the Total Physical Response Method (TPR) (Asher, 1977), in which learners were listening to some commands and had to react to them with no production practice. In general, TPR demonstrated to be more effective than the production-

based instruction. Nevertheless, some criticisms arose based on the design of the method. Despite that, other scholars (Winitz, 1981) continued this comprehension approach. Posterior developments include the Natural Approach (S. D. Krashen & Terrell, 1983) which we reviewed previously in this chapter and the Input Processing Theory (VanPatten, 1996) which contrary to Winitz and Krashen, states that learning not always happens naturally and automatically under the radar of comprehensible output. It is also necessary that learners' attention is focused on specific grammatical features and their meanings. Several studies (Shintani, 2015a; VanPatten & Oikkenon, 1996) have tested this Processing Instruction method. However, some researchers (R. Dekeyser & Botana, 2015) have concluded that the results obtained from the research conducted on Processing Instruction can't be conclusive since just a few grammatical features were tested. At the same time, from a pedagogical point of view, these authors pointed out the usefulness of the structured-input activities.

Lastly, this explicit type of instruction is deductive and holds a strong interface position.

In our study, we adopt this explicit model of comprehension-based instruction in which for the first fifteen minutes of six consecutive periods of class, learners were hearing an explicit oral presentation of the different cases of Spanish determiners, followed by five examples about them and with no oral or written practice of the target structure.

Pattern practice

This explicit method of instruction is based on the Audiolingual Method which relies on the behaviorist theories of learning. In this model, the teacher controls the learning process and decides what is wrong and what is right. The teacher introduces the target structure by using different drills, i.e. substitution, transformation, repetition, and the students must repeat it. The learning focus is on the external changes of the student behavior where mimicry and

memorization represent an essential role. Thus, these students must consolidate some habits in their learning process which will guide them to automatization of L2 production. The goal is that learners practice the target form until they can access it spontaneously.

In this method of instruction, there is an inductive process with a strong interface position.

Several researchers have been investigating this inductive approach of instruction compared it with deductive approaches where explicit instruction was present. The Swedish GUME project (Levin, 1969) showed no significant difference between inductive and deductive treatments for teaching three different ESL structures to adolescents. It seems that pattern practice even with explicit explanation, does not provide much to L2 learning since learners become just responders to the stimuli provided, not being oriented to be ready to engage themselves in an improvised conversation.

Consciousness-raising instruction

R. Ellis (2015) defines this type of instruction: "based on tasks designed to help learners to construct their own explicit rules about structural features", (p.258). This method of instruction doesn't use any production in input processing or comprehension activities. Therefore, this approach is inductive and holds a weak interface position because it is believed here that explicit instruction has a minor impact on implicit knowledge.

This instruction is carried out with some tasks that help learners develop their consciousness on a target structure. That way, they can build themselves an explicit representation of that structure.

Studies about consciousness –raising instruction (S. Fotos & Ellis, 1991; S. S. Fotos, 1994) differ in the sense that some have been shown to be effective in helping learners develop explicit knowledge, while others (R. Ellis, 2012) have demonstrated little influence.

2.3.2.2. Explicit corrective strategies

It is essential to provide learners with feedback. It constitutes and important factor of explicit and implicit instruction, viewed as fundamental in all the L2 acquisition theories.

Feedback can be either positive (i.e. showing learners their answer is correct) or negative (i.e. showing learners their answer is incorrect). Feedback can be provided at the end of the instruction (Marsden, 2006) or during instruction and by different actors (i.e. teacher, peers) (Toth, 2006). No studies up to date have investigated the comparison of effects of feedback provided in a different manner which represent a very interesting line of investigation for further research. Also, it can be delivered in an explicit or implicit way. Following R. Ellis (2015), we distinguish three types of explicit feedback: metalinguistic feedback, elicitation and explicit correction. Metalinguistic feedback occurs when there is a comment, piece of information or question related to a correct learner's utterance. Elicitation takes place when there is a question involved about a wrong utterance to elicit the correct one. Explicit correction takes place when there is a statement that provides the correct form indicating that an error was made.

Some studies have demonstrated the importance of this mechanism in explicit instruction (Tomasello & Herron, 1988; Tomasello & Herron, 1989). Another study (Saito & Lyster, 2012) proved the importance of corrective feedback especially when pronunciation is taken into consideration. Corrective feedback[14] is a powerful tool. Another study (Lightbown, Spada, &

[14] Please see some other studies (C. Doughty & Varela, 1998; S. M. Gass, 2013; Lyster & Ranta, 1997) for further review on corrective feedback

White, 1993), suggests that corrective feedback alone may be sufficient for learning without the need of any explicit grammar instruction.

2.3.3. The role of implicit instruction

R. Ellis (2015) defines implicit instruction: "instruction that caters to incidental acquisition and aims to attract rather than direct attention to form", (p.267). It is essential to differentiate implicit instruction which takes into consideration an instructor's stand point from implicit learning, concept that is based on the learner's perspective. We can find several definitions of implicit learning in the literature: "learning without awareness of what is being learned"(DeKeyser, 2008, p. 314); "input processing without such an intention, taking place unconsciously", (Hulstijn, 2005, p. 131); "acquisition of knowledge about the underlying structure of a complex stimulus environment by a process which takes place naturally, simply and without conscious operations", (N. Ellis, 2015, p.2); "learning that takes place without any awareness", (R. Ellis, 2015, p. 189). According to these definitions, it seems that all of them have in common the factor of unawareness in relation to the amount of knowledge acquired.

Implicit instruction doesn't provide necessarily implicit knowledge. This type of instruction aspires to develop incidental knowledge, since when present, learners are not consciously attentive to concrete target features, which models a way of learning where the understanding of target structures is not a goal.

2.3.3.1. Some theoretical questions

The implicit instruction supports itself on a series of theoretical ideas. One of these tenets, accepts incidental acquisition as possible. According to it, learners are not told what they have to learn. For some scholars, it seems that incidental learning is not different from implicit learning. At the same time, it is posited that incidental acquisition is the most important

mechanism with which acquiring the highest level of proficiency in a L2. It is accepted then by many in the literature (R. Ellis, 2006; N. Ellis, 2015; N. C. Ellis, 2005; R. Ellis, 2015) that implicit instruction can help students develop the necessary capacities to deliver an effective communication.

Other theoretical construct that intervenes in implicit instruction is *focus on form* (FonF) which takes into consideration the process of attending to form while learners are focused primarily on meaning. Therefore, "attention to form only occurs while learners are experiencing use of the L2", (R. Ellis, 2015). This is an approach where learners are made conscious about a concrete form of L2 that they are already capable to use in communication. As it has been stated in the previous chapter, this construct was proposed first by M. H. Long, (1998). In this type of activities there is an absence of explicit instruction of the target structures.

A second theoretical model connected with implicit instruction is the Dual-Mode Model (Skehan, 1998) which postulates that leaners have limitations regarding their processing capacity. Therefore, they are going to experience challenges at the time to focus on both, form and meaning. The solution proposed by this model is to concentrate more on one of the two, by attending to their rule-based system when focusing on form or their exemplar-based system when focusing on meaning. Skehan gives special consideration to language production in the acquisition of a L2. In this sense, he differentiates three elements in the production process: complexity, accuracy and fluency. According to Skehan's main reasoning, instruction must be oriented to develop the cognitive conditions that will influence learners to choose one aspect of production over another. That mechanism of prioritization can result in discrepancies between performance and acquisition. Thus, performance requires a focus on meaning while acquisition implies also to pay attention to form with the goal to be able to transfer the new L2 knowledge

from working memory to long-term memory. According to Skehan's view, one of the main purposes of implicit instruction is to find equilibrium between the requirements of performance and the demands of acquisition.

Lastly, another theoretical aspect worth mentioning is the Cognition Hypothesis (Robinson, 2007). Robinson as Skehan, pursues the goal to obtain specific tasks and various ways of applying them to eventually help learners attend desired ways of production. To do so, he distinguishes three types of variables: resource-directing variables, resource-dispersing variables and variables that affect how learners react towards implicit instruction. Resource-directing variables help develop interlanguage. Resource-dispersing variables don't help acquisition take place but foster automaticity. Tasks variables conducing to figure out the learners' reaction to implicit instruction are influenced by cognitive factors and affective factors (Robinson, 2011).

2.3.3.2. Types of implicit instruction

Figure 1 (R. Ellis, 2015, p. 272) displays the different varieties of implicit instruction.

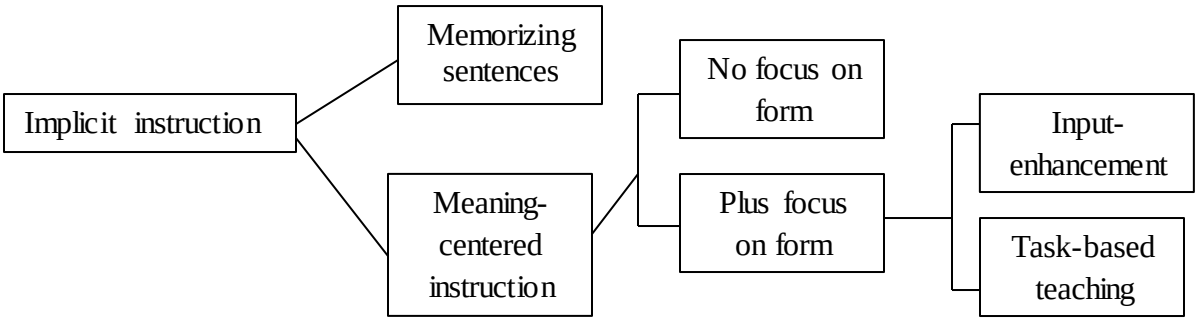


Figure 1 Types of implicit instruction.

Since implicit instruction looks for a certain degree of noticing, and this may be a need for learning, we can state that implicit instruction pedagogically is based on meaning, while conscious attention to target features can take place in a given moment. Furthermore, mplicit

instruction tries to implicate learners into the understanding and use of the L2 in order to be able to communicate (R. DeKeyser, 2007; R. DeKeyser, 2008; C. Doughty, 1991).

According to R. Ellis (2015) it is possible to identify two general types of implicit instruction. The first one is completely focused on meaning, holding no expectations for learners to pay attention to form (i.e. extensive reading; Natural approach, Krashen and Terrell, 1983). According to this type of implicit instruction, acquisition happens in the same fashion as in the acquisition of L1.

The second kind of implicit instruction is also focused on meaning but at the same time, utilizes a series of mechanisms to help learners attend to form. We can carry out this type of instruction via two different ways: through *enhanced input* and through *task-based language teaching* (TBLT). Enhanced input strategy consists of making target language features prominent in the input that is given to learners. This distinction can be obtained by underlining the target forms or using a specific utterance in the case of oral instruction. Another way is by making sure that concrete forms are used frequently in the input. This approach has been used in our implicit instruction method[15].

In TBLT, learners of a L2 are instructed to work on a large variety of language tasks, implemented in different settings with the authentic use of L2. R. Ellis (2015) declares that this type of task must satisfy four conditions: a primary focus on meaning; the presence of a gap; learners must use their own linguistic resources, and there must be a communicative outcome.

Memorizing sentences, extensive reading (Rodrigo, Krashen, & Gribbons, 2004) and text enhancement (S. Lee & Huang, 2008) can be considered types of implicit instruction.

[15] It will be explained in further detail in the next chapter.

We are going to take into consideration those TBLT divided into two groups[16]: input-based tasks (the learner is receiving the information, while production is not expected, although may be possible) and output-based tasks (which expect production from learners).

2.3.3.2.1. Input-based tasks

In this kind of task, learners are given L2 input, which is expected to be comprehended to carry out the task. On the other hand, production is not a fundamental element of the task. However, it can be present. This type of tasks is designed with the goal to present target features through the delivered input, expecting learners to notice them and be able to comprehend. Input-based tasks are based on the key element of comprehensible input (S. D. Krashen, 1985) and positive evidence which "refers to the input and basically comprises the set of well-formed sentences to which learners are exposed", (Gass, 2008, p. 225). Many of the task-based studies consist of 'listen and do' tasks (R. Ellis, Tanaka, & Yamazaki, 1994; R. Ellis & He, 1999). These two studies explored vocabulary acquisition and showed a very important conclusion: the processing of input is not automatic; it requires enough time and several exposures to the target features to be fully comprehended.

However, it is important to know if input-based tasks are effective to the implicit acquisition of grammatical forms. Two studies investigated this question, (Shintani & Ellis, 2010; Shintani, 2015b).

According to R. Ellis (2015), these studies show that input-based tasks are effective with low-proficiency groups when they have the opportunity to ask for clarification, eliciting negotiation of meaning and form. At the same time, these studies display that input-based tasks

[16] R. Ellis (2015) establishes another distinction, between focused tasks (activities that imply the use of specific target features) and unfocused tasks (designed to provide general target features).

have limitations since considering their results, leaners develop "receptive knowledge, but not productive knowledge", (R. Ellis, 2015, p. 276).

2.3.3.2.2. Output-based tasks

These tasks imply that learners have to produce, creating some kind of speaking or writing. In the literature, most of the scholars that investigate output-based tasks are centered on oral production.

Output-based tasks are classified in monologic tasks and dialogic tasks. Monologic tasks (Skehan & Foster, 1999) require learners to use their own resources (i.e. when learners have to produce a narrative). Dialogic tasks (Foster & Skehan, 1996) presuppose an interaction, implying an exchange of information (i. e. information-gap; opinion-gap task). This type of tasks makes possible the presence of online corrective feedback (Lyster, 2004).

How we design and implement the variables into these tasks play an essential role when learners carry out a task. The effects of task-design variables in learners' production in monologic tasks seem to show that the more complex the task is, the more accuracy learners display, although this complexity produces a detrimental effect on the level of learners' fluency (R. Ellis, 2015). Some scholars (M. H. Long & Crookes, 1986; Loschky & Bley-Vroman, 1993; Pica, Kanagy, & Falodun, 1993) have investigated the repercussions of design features of dialogic tasks by paying attention to their influence on the quantity and quality of the interactions[17] that occur when the tasks are carried out and also in relation to complexity, accuracy and fluency (CAF), concluding that task design "does effect acquisition and in ways that can be predicted on the basis of the theories that inform the design of tasks", (R. Ellis, 2015, p. 281).

[17] Some examples of these interactions include the negotiation of meaning, the negotiation of form, and modified output.

See Table 1 for a list of design variables.

Table 1. Task design variables (R. Ellis, 2015).

Design variables: task work plan
1. *Contextual support*
2. *Number of elements to be manipulated*
3. *Topic familiarity*
4. *Shared vs split information*
5. *Dual vs single task*
6. *Closed vs open outcome*
7. *Inherent structure of the outcome*
8. *Discourse mode*
9. *Here and now vs there and then*

The effects of task implementation variables on L2 production are also worth mentioning. See Table 2 for a list of implementation variables.

Table 2. Selected implementation variables (R. Ellis, 2015)

Implementation variables: task performance
1. *Learner's role*
2. *Pre-task planning*
3. *Time pressure*
4. *Rehearsal (task repetition)*
5. *Post-task requirement*

With Ellis (2015), we can distinguish three types of implementation variables: pre-tasks, main tasks and post-tasks.

In the literature (R. Ellis, 2005b; Skehan, 2014), the variable that has received more interest is the pre-task planning. It is important to figure out if having an opportunity to plan before performing the task has effects on the complexity, accuracy and fluency (CAF) of the

production. According to Skehan (1998), planning affects the process of internalizing the knowledge, which helps learners at the time to perform the task by reducing the grade of complexity. Robinson (2005, 2007) states that pre-tasks planning doesn't produce effects on either accuracy or complexity. R. Ellis, (2009a) reviewed 19 studies that investigated pre-task planning, getting the conclusion that this type of pre-task affects the way the task is implemented and that planning helps the development of the level of fluency.

Another pre-task variable that it is important to point out is task-rehearsal, which consists of making learners repeat a task one or several times. R. Ellis (2009a) studied three papers which consider the effects of rehearsal, concluding that rehearsal has useful consequences on the realization of the same task in all the CAF areas. However, it was observed that no transference took place to a new task, which it may indicate that repeating a task, doesn't lead to acquisition.

Other scholars (Bygate, 2001; Shintani, 2012) consider that it takes a massive repetition for transferring of training.

In conclusion, considering the studies reported, we can state that pre-task planning and rehearsal have positive repercussions on a better fluency, complexity and accuracy.

The second variable above mentioned is the *main task implementation variable*. In this case, we consider the conditions with which learners perform a task, not the actions that took place before the performance of the task. According to R. Elllis (2015) we can differentiate two types of main task implementation variables: variables that add external requirements (i.e. time pressure) on the way the task must be performed, and variables with online interventions during the process of performing the task, which have effects on both, acquisition and production from learners.

A post-task requirement can be considered as a way of imposing an external constraint on the performance of a task. Learners know about this task even before they start to carry out the task in place (i.e. translation of the task). This post-task variable can be of different types "including explicit language instruction", R. Ellis (2015, p. 281).

In our present study, we use four main different tasks: acceptability judgment task, truth-value judgment task, picture-sentence matching task, and sentence-picture acceptability judgment task. We will talk more about them on Chapter 3.

2.3.3.3. Implicit corrective strategies

Corrective feedback strategies can be explicit (metalinguistic feedback, elicitation, explicit correction) or implicit. At the same time, they can be classified as input-providing (help reformulating the incorrect learner's performance) or output-prompting (demands to clarify the learners' output to correct it if necessary). With R. Ellis (2015) we can differentiate four types of implicit corrective strategies:

(1) Request for clarification: it is a question that provides a better explanation of a former comment. See Example 1.

EXAMPLE 1

NNS: Siempre que voy a Galicia, está lloviendo.

NNS: ¿Qué?

In this case, apart from being an implicit corrective strategy it is also an output-prompting one.

(2) Confirmation check (CF): it is a statement that immediately follows a previous one with the purpose of making sure that the utterance was comprehended. See Example 2.

EXAMPLE 2

NNS: El clima de España es muy agradable.

NS: ¿Los españoles disfrutan un clima agradable?

Some researchers (Lyster, 2004) consider that CF are useful strategies that promote acquisition of the L2 because they help learners to develop a higher level of competency over the target features they are working on.

(3) Recast: it is a comment or remark that repeats the learner's statement by changing one or more elements while still addressing the same communicative meaning (Long, 1996). See Example 3.

EXAMPLE 3

NNS: En la calle hay un coche parada.

NS: Ya… un coche parado.

Lyster (1998) classified recasts into four types: declarative, interrogative, and whether it sought confirmation of the original utterance or provided additional information. At the same time, he considered recasts not very useful as corrective feedback resources but effective in order to focus the teaching lesson on content rather than on language form.

R. Ellis (2015) acknowledge them as "effective in promoting acquisition, especially when they are made salient to the learner", (p. 162).

(4) Repetition: "and utterance that repeats the learner's erroneous utterance highlighting the error", (R. Ellis, 2015, p. 150). See Example 4.

EXAMPLE 4

S: ¿El… el camisa?

T: ¿El camisa?

2.3.4. Implicit vs explicit corrective strategies

We can cite four different studies investigating the relationship between implicit and explicit corrective strategies. According to the first one (Loewen & Philp, 2006), the more explicit the recasts are, the more opportunities to learn will arise.

R. Ellis, Loewen & Erlan (2006) compared repetitions and recasts (implicit) with metalinguistic comments (explicit). The results obtained led to the conclusion that using both types of corrective strategies (repetitions followed by metalinguistic comments) was more effective than the use of just one (recasts). However, this relevance was present only at the delayed post-tests.

Another study (Yilmaz, 2012) compared the effects of explicit correction (explicit) and recasts (implicit) on two target features, delivered in person and through a computer system. The results showed a statistical significance for explicit correction over recasts.

Most of the studies conducted display that explicit CF is more effective than implicit CF. Nonetheless, Li (2010) observed that implicit CF was more effective than explicit CF in post-tests administered several months after the instruction was given which may be explained by the increased effect held over time.

2.3.5. Implicit vs explicit instruction

As a summary, Table 3 (R. Ellis, 2015) depicts both the implicit and explicit methods of instruction that we mentioned so far.

Table 3. Implicit/explicit method of instruction. Main characteristics

Explicit methods	*Implicit methods*
Presentation-practice-production (PPP)	Memorizing sentences
Integrated instruction	Extensive reading
Concept-based instruction	Input-Enhancement
Comprehension-based instruction	Task-based teaching

Pattern practice	
Consciousness-raising instruction	

Adherents from both sides have been positing the beneficial effects of their particular teaching method for the acquisition of a L2. Swan (2005) reiterates the necessity of the explicit instruction in order to consolidate the learning process conducive to the attainment of the L2 acquisition. He particularly criticizes the advocates for the task-based instruction (R. Ellis, 2015; Robinson, 2007; Skehan, 1998) adducing that it is based on theory and research, with no solid proof to support this hypothesis nor any valid evidence of the model. We must agree with Ellis (2015) in that there is indeed enough evidence (R. Ellis et al., 1994; R. Ellis & He, 1999; Pica et al., 1993) supporting the claim that task-based instruction helps the process of learning a L2.

However, we must keep asking ourselves which method, -implicit or explicit-, is more effective in the acquisition of a L2. Trying to answer this question, Norris and Ortega (2000) and Goo et al., (2015) concluded that explicit instruction is more effective than implicit instruction. Also, Spada and Tomita (2010) reported that both mechanisms of instruction were effective in both contexts, with time constraint and without it. Again, explicit instruction, was found to be more effective than implicit instruction. In the context of learning vocabulary, Schmitt, (2008) found that learning vocabulary with and explicit focus is more effective. According to this, we could state that explicit instruction is more effective than implicit instruction in areas such as grammar or vocabulary. However, this cannot be that simple. Indeed, it seems that explicit instruction is more effective when the instruction is oriented at acquiring concrete linguistic features. But there is much more than that to learn, for example the ability to use the linguistic competence in different communicative contexts. Only few studies (Shintani & Ellis, 2010; Shintani, 2012; Shintani, 2015a) have tried to investigate this ampler approach. The results show that implicit instruction was more effective.

There is still much controversy about the implicit/explicit methods of instruction issue. A very essential aspect in the latter is the concept of individual differences. Every learner is genuine and unique, with their own specific characteristics (learning styles, learning strategies, age, motivation, context, etc). The adequacy of a method of instruction will probably vary according to the specificities of each learner. In the literature, there is a need to investigate this relationship between individual differences and types of instruction.

2.3.6. Summary

We have presented two types of instruction, implicit and explicit. Both share the same goal: the development of L2 knowledge conducive to be able to communicate effectively. As we noted, both methods help in the attainment of this goal. The explicit instruction model assumes that explicit knowledge is the starting point in the acquisition of a L2. The implicit instruction model is based on the idea that learners will develop their language proficiency by taking part in instructional activities that provide comprehensible input and opportunities to focus on form and produce output. This chapter has provided evidence that both methods of instruction are effective. This has important repercussions in the sense that there is no need for instructors to choose one option over another. Both can and must complement each other always taking into consideration the learners' individual differences to maximize the effectiveness of both instructional methods.

2.4. Age and Second Language Acquisition.

2.4.1. Introduction

Age is an important factor in the acquisition of a L2, constituting one of the elements in the individual differences system. The starting age to learn a L2 varies since some learners start in early childhood (3-8 years old) while others start in secondary school or even as adults.

Learners' starting age is an important object of study in relation to L2 acquisition. Few decades ago, some scholars (Penfield & Roberts, 1959) pointed out that children are usually more efficient second language learners than adults based on the argument that children's brain is more suitable for learning languages. Later, other researchers (Lenneberg, Chomsky, & Marx, 1967) introduced the term "critical period" to explain the loss of the biological capacity to acquire a language, arguing that that is possible due to the completion of hemispheric lateralization, which occurs during puberty. According to this, they established this critical period between 2 and puberty, when it is assumed to be the best period to learn a language. Once this time has passed, the acquisition of a L2 is accepted as possible but also considered more challenging. Since the late 1960s, the CPH has been discussed as an important factor in the acquisition of a L2. In the literature (Hyltenstam & Abrahamsson, 2003), long-term advantages for child starters have been acknowledged, especially after several studies (S. D. Krashen, Long, & Scarcella, 1979; M. H. Long, 1990; D. M. Singleton & Ryan, 2004) that could not find any evidence in contrary. It seems then that the pivotal point now is how to explain this phenomenon, "by constraints imposed on the learner along with maturation, or by social-psychological factors", (Hyltenstam & Abrahamsson, 2003, p. 540). R. Ellis (2015) tackles this issue by distinguishing the effect of age on ultimate attainment, the rate of acquisition, and the route of acquisition.

2.4.2. Maturational constraints in SLA

The maturational constraint hypothesis claims that there are age constraints on learning required to explain the acquisition of a L2. Some studies (Gleitman & Newport, 1995) about L1 acquisition suggest that a starting age of exposure beyond 6 or 7 results in a weaker attainment due to biological reasons. If we accept the premise of the existence of maturational constraints

which state that the human brain is especially adapted for the acquisition of language during an early period of time, but much less later on, then the premise should also apply to both, L1 and L2 (Hyltenstam & Abrahamsson, 2003; Johnson & Newport, 1989; Patkowski, 1990).

However, there is an essential difference between the process of L1 and L2 acquisition and is that native-like proficiency in L2 may or may not occur.

Having these considerations in mind we may ask ourselves a series of questions:

1. Is it possible for adult learners of a L2 to acquire a native-like level of proficiency?
2. Is the learners' starting age of a L2 decisive to attain a specific level of proficiency?
3. Do children and learners follow the same path in acquiring the grammar of a L2?

Before tackling these questions, we agree with R. Ellis (2015) in the need to shed some light into some concepts involved in them. Namely, what does level of proficiency mean? Or what are the conditions to be named 'adult learner' or 'child learner'?[18] These constructs are not easy to define. Some researchers (Erikson, 1966) distinguish different stages in age development: infancy; early childhood; middle childhood; adolescence; young adult; adulthood; maturity. But there are important differences between a young adult being 18 or 40. The question of proficiency remains also controversial: can we consider proficiency in terms of implicit knowledge or explicit knowledge? What aspects should we consider to be proficient at a L2? Pronunciation? Grammar? Pragmatic skillfulness?

2.4.3. Theoretical foundations

The first of the above questions is the principal from a theoretical point of view and is in relation to the previously mentioned Critical Period Hypothesis (CPH), presented for the very first time by Penfield and Roberts (1959). This theory claims that there is an ideal time window

[18] We are referring to this problematic in the following pages, specifically related to adolescence, since the participants in the present study can be considered adolescents.

(until the beginning of puberty) to acquire a language in a linguistically proper environment, after which further language acquisition becomes much more difficult. There is a long-standing debate in the field of linguistics and language acquisition over the ending of this critical period.

One of the most significant attributes of the CPH is that supports the language acquisition device concept (LAD) by Chomsky (1965). It can be defined as an instinctive mental capacity that helps an infant to acquire and produce language. This device contains knowledge of linguistics that can be considered universal because its rules apply to any language. Since every child can access to this universal linguistics, they can become proficient in their mother tongue. The LAD is a component of the nativist[19] theory of language. Adults, in contrast, aren't longer able to access this device and must use different cognitive abilities (logical thinking, deductive reasoning, systematic planning) in the acquisition of a L2. Those abilities help learners to acquire a new language to a certain level of proficiency but are insufficient since they can't provide the capabilities that the LAD offers. Therefore, learners who lost access to the LAD are incapable of acquire all the grammatical features of the L2.

The second question has important theoretical repercussions since relates age and rate of acquisition. In an initial stage, older learners learn quicker than child learners. However, over time, child learners recover the pace and overtake them. The explanation is that older learners rely more on their conscious learning strategies. In contrast, children make use of their implicit knowledge and with time, are also able to develop those conscious learning strategies, overtaking the older learners.

[19] In the field of psychology, nativism is the view that some skills are *native* or hard-wired into the brain at birth, concept related to Universal Grammar for languages used to express the innate biological properties of the human brain that are responsible for children's quick and effective acquisition of a L1.

In relation to the last question, it seems that child learners are going to rely more on implicit learning while older learners are more likely to rely on explicit learning since the latter have more consolidated analytical competences.

2.4.4. Empirical evidence

The literature review about the differences related to learners' age in L2 acquisition, point out some generalizations that were exposed first by S. D. Krashen et al., (1979), according to which adults learn faster than children the early stages of morphological and syntactical features; older children acquire faster and child starters learn faster and more effectively than adult starters in the long run. This review (S. D. Krashen et al., 1979) claimed the existence of important inconsistencies with existing empirical results, resolving the issue by dividing the empirical studies into two groups, "initial rate" and "eventual attainment". Other group of studies is based on who can become native-like in the acquisition of a L2.

Is it possible for adult learners of a L2 to acquire a native-like level of proficiency?

We could reformulate this question in this way: who can become native-like in a L2? Supporters of the CPH claim that for adults this is rarely entirely successful since the period during which learners can acquire a L2 easily and implicitly achieving a native-like proficiency has passed. Opponents of the CPH are trying to demonstrate that adult L2 learners can acquire a language reaching a native level of proficiency. If those individuals exist, we can conclude that the reason why adults don't reach native-like L2 proficiency are not only based on maturational constraints reasons.

The first study to take this approach (Coppieters, 1987) investigated the syntactic/semantic judgment task given to 21 adult learners of L2 French who were initially considered as nativelike because of their absence of any salient foreign accent. Their overall

performance was lower than the one from native speakers. Birdsong (1992) in a replication of Coppieters' (1987) study, found that 15 out of his 20 adult L2 learners of French performed as native speakers on a grammaticality judgment task.

In the field of phonology, other researchers (Bongaerts, Van Summeren, Planken, & Schils, 1997), reported on the nativelike pronunciation of some high proficiency post-puberty Dutch L2 students of French and English, showing that two participants with age of onset (AOs) 21 and 14 passed as native speakers. In the same field, (Moyer, 1999) conducted a study of 24 late American German L2 learners. The tasks consisted in reading aloud three different texts and later produce a free oral task. Combined with the participants, there were four native German who acted as controls. Results clearly showed the differences between the native speakers and the L2 learners. However, there was one participant who performed meeting the native expectations in all the four pronunciations tasks. Moyer depicts this native-like individual as someone who had a very determined goal to sound German and as an extraordinary learner.

It is important to point out two studies (Ioup, Boustagui, El Tigi, & Moselle, 1994; Lardiere, 2007) of individual learners. The former investigated an older L1 British L2 Arabic learner. She moved to El Cairo at the age of 21 and at the time to collect the data she had lived in Egypt for 26 years, being then 47 years old. She had never received any formal instruction in Arabic. The participant carried out an oral recording of her favorite recipes, a test of her ability to distinguish Arabic accents, a grammaticality judgment test and a test of ability to process complex syntactic structures. The results showed how 7 out of 13 judges rated this participant as native. She made very few mistakes in the translation test and her judgments were different from natives only in 5 times out of 37.

The second individual study to mention is about a female Chinese adult learner of L2 English. She arrived in the US at the age of 22. She performed several tasks: an oral recording after 10 years of residing in the US; two more recordings made two months apart in 1995, and a writing task. Results showed that the participant did not get a native-like proficiency level, neither in grammar nor in morphological-syntactical constructions. Her writing was more accurate than her spoken English.

Overall, the research seems to suggest that it is not very probable that L2 learners after puberty can develop nativelike competences, which would support the theory in favor of the presence of CPH. However, it is proven that there is a reduced number of late learners who are able to attain a nativelike level of proficiency in one or more areas of the L2. In the literature these "not very probable" learners have been described as being extremely motivated (Moyer, 1999), having a remarkable aptitude to learn a L2 (R. M. DeKeyser, 2000; Harley & Hart, 1997) or having received an intensive and focused L2 instruction (Moyer, 1999).

Another way to explain this problematic is by the acceptance of a *period of discontinuity* between a stage where there is a full competence to learn a L2 and another when that is not possible. Some researchers support the presence of this discontinuity in time (Granena & Long, 2013) and others don't (Birdsong, 2006).

Lastly, the idea of a CPH has also been confronted by the concept of *multicompetence* (V. J. Cook, 1991). R. Ellis (2015) explain this phenomenon: "when someone learns another language, they do not become a native speaker of their first language and a non-native speaker of the second language but a multicompetent speaker of two languages". Therefore, according to this idea, it seems that both, L1 and L2 interconnect with each other, supporting each other, developing together.

Is the learners' starting age of a L2 decisive to attain a specific level of proficiency?

Different studies show that L2 learners who start as children develop a higher level of proficiency than those who start later, namely as adolescents or adults. Oyama, (1976) conducted a study with 60 male immigrants who went to the US, with ages ranging from 6 to 20 who had been resident in this country for between 5 and 18 years. Oyama found a significant effect for the age of arrival versus the number of years in the US. Another study (Patkowski, 1980) in this case for the acquisition of grammar, reported that learners who had arrived at the United States before turning 15 were more syntactically proficient than learners who entered the country after being 15. Singleton & Ryan, (2004) conducted a review of studies that compared children and adult L2 learners reaching the conclusion that those who start learning a L2 in childhood achieve a more proficient level that those who start later.

Do children and learners follow the same path in acquiring the grammar of a L2?

R. Ellis (2015) states that age doesn't influence the route of L2 acquisition. Therefore, child and adult learners would follow the same sequences of acquisition. In the literature, several studies support this view: for grammatical morphemes (Bailey, Madden, & Krashen, 1974; Dulay & Burt, 1973); for English negatives and interrogatives (Cancino, Rosansky, & Schumann, 1978); for the acquisition of French verbal forms (Harley, 1986) and for oral narrative (Álvarez, 2006). In these examples, it seems that learners process linguistics contents in a similar fashion, regardless of their age. However, older learners tend to carry out a more analytical approach (relying more on explicit knowledge) than younger learners (relying more on implicit knowledge) which may have repercussions on the route of acquisition. A recent study (Dimroth, 2008) on the acquisition of negation and verb tense markings by two L2 German learners of 8 and 14 years old respectively, showed that the 14-year-old learner followed a

similar learning pattern to that reported for adults. In contrast, the 8-year-old child followed a different order of acquisition. Dimroth (2008) concluded that L2 acquisition had been influenced by age. The results of this study seem to contradict the previous ones. Thus, we should proceed with caution and not refusing entirely the possibility that age has effects in the process of L2 acquisition.

2.4.5. Adolescence

Since our study is investigating the repercussions of the type of instruction and its effects on L2 knowledge and language transfer among adolescents, I believe it is pertinent to clarify the concept of adolescence and have a look at some specific literature related to it. It is not our main purpose to deepen into more intricate discussions about the concept, but at least, to refer to a few issues related to it.

Adolescence has been considered as the period of time between the onset of puberty and the foundation of social independence (Steinberg, 2014). In the literature, there is a candent discussion about the boundaries and stages in relation to this essential developmental period. In table 4, you can see different approaches of the term considering the age of the subjects.

Table 4. Timeframe for adolescence period according to different theorists/organizations.

Organization/Theorist	*Presence of adolescence (years)*
G. Stanley Hall (1904)	14-24
Erik Erikson (1994)	12-18
Society for Adolescent Medicine (1995)	10-25
Steinberg (2014)	10-25

Taking into consideration the earliest and the latest year of adolescence (10-25), we see that this period includes the development of many cognitive and affective elements in the adolescent's life, since his physical and intellectual life is still in a continuous expansion. It is

the purpose here just to stress the challenging stage in which the adolescents are immersed while learning a L2, marked by many changes which may affect their acquisition process. In connection with this, I would like to cite three different approaches that try to explain all of these changes: Biosocial approach (Darwing, 1979; Hall (1904); Organismic approach (Erikson, 2004; (Piaget & Inhelder, 2008) and a Contextual approach (Lerner, 1992). Within these perspectives, adolescence is considered as a transitional stage between childhood and adulthood. Since this period of time includes more than a decade, some researchers have identified sub-stages within it: some scholars (Elliott & Feldman, 1990; Steinberg & Morris, 2001) differentiate early (10-13; 10-14), middle (14-16; 14-18; 15-17) and late adolescence (17-21; 19-25; 18-25). Other researchers (Irwin, Burg, & Cart, 2002) distinguish early adolescence (10-14), late adolescence (15-19), and young adulthood (20-24). In our study, learners' age ranges from 14 to 18, which could be considered as a middle adolescence stage. The age 14 is crucial since from a developmental perspective, it is accepted that by that age the adolescent can maintain an ability for adult reasoning (Leffert et al., 1998). During this middle adolescence stage, there is an important development of the brain and physical abilities, along with an increasing scope of emotions. The relationship with parents witnesses a lower amount of conflicts and it occurs an emphasis on academic accountability and achievement. These developments show us adolescence as a sensitive and crucial time where many regulatory systems reorganize themselves on their way to the next stage: adulthood.

2.4.6. Summary

Age is an element to consider at the time to study the acquisition of any L2. In connection with this, the CPH represents a maturational constraint in SLA in the sense that it states that there is an optimal period of time to learn a language. After that period of time, the acquisition of any

language becomes troublesome. In the literature reviewed, we observed that even though it is not very likely that learners of a L2 after puberty can develop a nativelike level of proficiency, in some cases that's possible. These cases were characterized by the presence of high levels of motivation, focused learning, or aptitude to learn. Some researchers confront the CPH arguing that this period doesn't exist. What it happens according to them, is the confluence of both languages L1 and L2, interconnecting, supporting and developing together. Due to the existing difficulties to specify any age limit for attaining a nativelike proficiency in a L2, some scholars (Patkowski, 1980) prefer to talk about a "sensitive period" rather than a "critical period". At the same time, it seems that an earlier starting age for acquiring a L2 is influential to achieve a nativelike proficiency only if learners have multiple sources of exposure. For all these reasons, age effects on L2 acquisition are open to questions, which demands for more studies on L2 acquisition by adolescents, given that this is an under-reported learner community. This study is an effort to answer some of those questions and a step in the right direction.

2.5. Development of L2 Spanish.

2.5.1. Introduction

In this section I refer to the acquisition of L2 Spanish determiners and the definite article system in L1 English-L2 Spanish learners, and discuss different cases comparing their use and interpretation in both, L1 and L2. The question about how transfer can influence the L2 acquisition of articles is discussed in the following pages of this study under the rubric "The role of the first language".

2.5.2. The definite article system in L1 English-L2 Spanish learners.

It is essential before tackling the question of the L2 acquisition of Spanish determiners, to point out that definite articles come accompanied by nouns. This implies the need of figuring out

how these nouns act. Some researchers (Chierchia, 1998b; Longobardi, 1994) state that nouns can either act with an argumental function (names of kinds; i.e., Chinese) or as predicates, which is what happens in the Romance languages (Spanish, Italian). As predicates, nouns specify the attributes of the subject, i.e., mi padre es abogado. Chierchia (1998) distinguishes as well the possibility in which nouns can function as both, predicative and argumental. This is possible in languages that represent the union of the previous two kinds (Germanic or Slavic).

2.5.3. English article system

In English language, nouns carry out an argumental function. Thus, English can use bare arguments in subject position. This can be seen in Examples 5 and 6:

EXAMPLE 5

Dogs are very loyal.

EXAMPLE 6

Silver is inexpensive

According to the Examples 5 and 6, we can see that it is possible the placement of bare arguments as subjects if mass nouns[20] (envy) are in singular and count nouns[21] (dogs) are in plural. If the nouns in the above examples were to be accompanied by a determiner as in Examples 7 and 8 the meaning of the sentence would add the characteristic of specificity (the sentences would refer to a specific type of envy and some specific dogs).

EXAMPLE 7

The dogs are very loyal

EXAMPLE 8

[20] In linguistics, a mass noun is a noun with the syntactic property that any quantity of it is treated as an undifferentiated unit, rather than as something with discrete subcategories.

[21] In linguistics, a count noun is a noun that can be modified by a numeral and that happens in both singular and plural forms.

The silver is inexpensive

2.5.4. Spanish article system

Spanish language seems to follow the same pattern as in the English language (Chierchia, 1998a). However, there are some particularities. In English, both, count nouns and mass nouns accompanied by a definite article are interpreted in a specific way. Without the article, the interpretation is generic. In Spanish, however, it is not possible to use bare plurals as subjects as in example 9 for count nouns and example 10 for mass nouns. At the same time, count nouns and mass nouns, accompanied by a definite article in Spanish can have both interpretations, generic and specific, as in example 11.

EXAMPLE 9

Rosas son bonitas

EXAMPLE 10

Plata es barata

EXAMPLE 11

Las rosas son bonitas

In conclusion, in Spanish, count and mass nouns must be accompanied by a definite article in a subject position which can provide a generic reading or a specific reading depending on the context. In contrast, in English bare plural subjects (Example 5) give a generic interpretation, while as in Spanish, it is not accepted any bare singular count noun subjects. However, it is possible in English the use of bare singular subjects with mass nouns as in example 6.

2.5.5. L2 acquisition of Spanish determiners.

In our study, we are considering five different scenarios on the L2 acquisition of Spanish determiners.

2.5.5.1. Second mention use

In English, as in Spanish there exists the requirement that a definite article be used on second mention as we can see in example 12. The use of an indefinite article or the omission of a definite article on second mention, is considered to be ungrammatical in both, English and Spanish (Ionin, Ko, & Wexler, 2004; Montrul & Bowles, 2009; Montrul & Ionin, 2012): examples 13 and 14.

EXAMPLE 12

Maria has a flower. The flower is very beautiful

"María tiene una flor. La flor es muy hermosa"

EXAMPLE 13

Marcos owns a car. A car is red

"Marcos tiene un coche. Un coche es rojo"

EXAMPLE 14

Miguel has a dog. Dog's name is Mocheté.

"Miguel tiene un perro. Perro se llama Mocheté"

2.5.5.2. Impossibility of a bare singular count noun

As in the previous case, this rule applies for both languages again (Ionin et al., 2004; Ionin, 2006), English and Spanish. According to it, it is ungrammatical the use of a bare singular count noun, as we can see in example 15. The grammatical sentence would require the use of a determiner, as we observe in example 16.

EXAMPLE 15

The mom heard a noise. Book fell down

"La mama oyó un ruido. Libro se cayó"

EXAMPLE 16

1. The mom heard a noise. A book fell

   "La mama oyó un ruido. Un libro se cayó"

Since both two first cases function in the same way in Spanish and English, we expect not significant differences among L1 and L2 learners as we explain in Chapter 4.

2.5.5.3. Generic bare plural subjects

This type of sentences is grammatical in English but ungrammatical in Spanish (Pica, 1983; Pica, 1985). The distinction can be seen in example 17:

EXAMPLE 17

José' dog is always seated. Dogs are very quiet

"El perro de José siempre está sentado. Los perros son muy tranquilos"

In the literature, we can see some studies (Carlson, 1977; Diesing, 1992; Ionin, Montrul, & Crivos, 2013) related to this particular feature.

Because of the differences between Spanish and English language, we expect some differences in the interpretations of these sentences before instruction and after instruction.

2.5.5.4. Interpretation of plural NPs

Plural nominal phrases (NPs) hold a different interpretation in English and in Spanish (Ionin et al., 2013; Montrul & Ionin, 2012). The use of a definite article in English provides the sentence with a specific reading while in Spanish the reading can be either specific or generic, even though in our control group and in other studies (Ionin et al., 2004; Ionin & Montrul, 2009)

there was a preference for a generic interpretation of definite plural articles. We can see these differences in interpretation in example 18:

EXAMPLE 18

The rabbits have four legs

"Los conejos tienen cuatro patas"

The sentence in English is going to be interpreted in a specific way since bare subject plurals are used for a generic reading. In Spanish, however, as stated above, the use of a plural definite article in a subject position makes both interpretations possible: generic and specific.

2.5.5.5. Interpretation of definite and possessive determiners in alienable and inalienable contexts

The interpretation of definite and possessive determiners in alienable and inalienable contexts differs in Spanish and in English (Ionin & Montrul, 2010; Pérez-Leroux, Munn, Schmitt, & DeIrish, 2004). In the latter, the possessive is required to refer to inalienable possession, while the definite article is used in an alienable context. In contrast, in Spanish, "both definite and possessive determiners are grammatical with an inalienable possession interpretation", (Montrul & Ionin 2012, p. 80). The differentiation can be observed in example 19:

EXAMPLE 19

Maria touched her nose. (The possessive is required in English to be grammatical.)

"María tocó su / la nariz". (Both ways are grammatical in Spanish.)

2.5.5.6. Summary

The acquisition of L2 Spanish determiners by L1 English learners is notoriously influenced by the characteristics of the L1 English determiners' system which brings us the need

of noticing the importance that L1 transfer process (Ionin & Montrul, 2010; Montrul & Ionin, 2012) plays into it[22]. In this section, we just considered five different scenarios regarding the Definite Article System in L1 English L2 Spanish Learners. The first two, -second mention use and impossibility of a bare singular count noun-, are similar in both languages. However, that's not the case in the other three cases where the particularities of both, English article system and Spanish article system, represent a factor to consider.

In our study, we consider not only the effects of L1 transfer into L2 but also if there is any correlation between the specific method on instruction used and the effects of the L1 transfer over the L2.

2.6. The Role of the First Language

2.6.1. Introduction

As we discussed above, in the L1 English-L2 Spanish learners' system, it is paramount to consider the repercussions of the L1 in the learning process. In the present days, the majority of researchers admits the influence of the L1 in this process.

Previously, in the late 1950s, the behaviorist learning theory (Skinner, 1953) was prevalent. This theory stressed the importance of the "behavior" in learning languages, in the sense that at the time to acquire a L2, some habits from L1 may prevent the development of the L2. This approach denied the importance of any internal mental process in the acquisition of a L2. Lado (1957) continued this approach based on the *L1 interference* as the main reason to explain the difficulties and challenges to learn a L2. Thus, he posited the Contrastive Analysis Hypothesis which has two formulations: the strongest one claims that all L2 errors can be predicted by knowing the differences between the L1 and the L2. The weak formulation

[22] We will address this question in more detail in the next section of this Chapter 2.

(Wardhaugh, 1970) proposed a contrastive analysis to identify the errors produced as consequence of the L1 interference.

However, some researches (Dulay & Burt, 1974) considered that many of the mistakes made by L2 learners couldn't be explained by the L1 interference.

Presently, both views of L1 interference are questioned because the existing differences between L1 and L2 are not always a synonym of obstacles in the SLA. Thus, the concept "interference" has been substituted by the concept of "transfer" since the L1 is now seen as one of the many components that influence the acquisition of a L2.

2.6.2. Language transfer

R. Ellis (2015) defines the concept: "language transfer is said to occur when there is evidence that the linguistic features of one language influence those of another language", (p. 118). This evidence can be represented by errors that may be related to another language; the knowledge of structures that are similar in both languages (cognates), or the overuse or reluctance of some linguistic structures.

Transfer is a phenomenon present in both, reception and production. It is more clear in the way the individuals pronounce the language, even though its influence can be observed in other areas of language such as grammar, vocabulary, or orthography.

Some researchers make the differentiation between positive and negative transfer (R. Ellis, 1994a; S. M. Gass & Selinker, 1992; Odlin, 1989). Positive transfer occurs when the linguistic interference between L1 and L2 results in a correct language production. Negative transfer is possible when speakers and writers transfer some structures that are not the same in both languages.

With R. Ellis (1994, 2015) we can differentiate five different factors that influence L1 transfer:

2.6.2.1. Linguistic factors

In this group of factors, we can include the *linguistic differences* between the L1 and L2 which according to the Contrastive Analysis Hypothesis can result in experiencing difficulties at the time to learn the L2. R. Ellis (1994) considers that transfer is more salient in categories such as lexis, phonology and discourse.

Markedness and *language distance* would be the other two linguistic factors to consider. The latter implies that if the L1 and L2 are similar grammatically (i.e., Spanish and Italian) the L2 acquisition will be quicker and easier than if they are very different grammatically (i.e., Spanish and Chinese). However, the fact that two languages are similar can't impede the presence of both, negative and positive transfer (Sjöholm, 1976). In linguistics, markedness is the way some structures stand out as unusual or difficult in relation to more common or regular forms. In general, it is believed that marked structures are more challenging to be processed and acquired (Callies, 2013) which may cause resistance from learners to transfer some L1 marked features. A study worth mentioning (Eckman, 1977), tried to explain how markedness influences transfer[23]. In this study, Eckman investigated transfer in English learners of L2 German and German learners of L2 English in relation to voice contrast. He concluded that transfer effects are not possible when the L1 structure is marked and the L2 unmarked, but they are present when the L1 position is unmarked and the L2 marked. However, some researchers (Liceras, 1985) found proof of transfer of the marked variant. In the literature, it is accepted the presence of transfer of both marked and unmarked structures (Jarvis & Pavlenko, 2008; Pavlenko & Jarvis,

[23] In order to do so, Eckman created the Markedness Differential Hypothesis (MDH) which tried to reformulate the Contrastive Analysis Hypothesis to acknowledge the markedness factors.

2002), and according to R. Ellis (2015), it seems that L2 learners are more prone to transfer unmarked L1 features regardless the markedness or unmarkedness of the L2 respective feature.

2.6.2.2. Psycholinguistic factors

We can distinguish two: *prototypicality* and *psychotypology*. The former is represented by Kellerman (1978, 1979) who posited that learners are adamant about transferring non-prototypical structures. According to this hypothesis, it seems that learners have intuitions and perceptions about the structures that may be transferable from their L1 and produce actions following those intuitions.

Psychotypology (Kellerman, 1979) is a concept used to describe the learners' perceptions about language distance. Kellerman proposed that learners' decision to rely on their L1 is based on their conviction as to their native language and target structures are similar or very different. Evidence of this proposal has been found (D. Singleton, 1987)

2.6.2.3. Contextual factors

L1 transfer may happen depending on the context where L2 learning takes place. Transfer effects exist in both formal (i.e. classroom) and informal (i.e. naturalistic settings) settings. Some researchers (Kellerman & Smith, 1986; Odlin, 1989) claim that negative transfer is less habitual in classroom settings. At the same time, the way we use the L2 (speech style[24]) can affect the L1 transfer (E. E. Tarone, 1982). Tarone (1982, 1983) made the distinction between careful and vernacular style of L2 learners and related them to language transfer, concluding that negative transfer is going to be more prominent when the learner has a careful style of learning because in that case, they are going to pay more attention to their communicative skills, making the effort to take advantage of all their linguistic abilities. Also, the specific nature of the task that learners

[24] Vernacular style and careful style (Labov, 1970) are two types of speech according to the amount of attention paid to it. Vernacular style pays the least attention as opposed to careful style which is related to the formal use the language.

have to perform (i.e. translations, filling the blank, spontaneous production) can affect the transfer effects (R. Ellis 1994, 2015).

2.6.2.4. Developmental factors

In the literature, some researchers (Taylor, 1975) claim that negative transfer is more palpable in beginners. In his study, Taylor got the conclusion that lower proficiency learners rely more on their L1 knowledge while higher proficiency learners (intermediate) trust more the L2 knowledge they acquired.

It has been found the impact of L1 over L2 acquisition in a series of different studies: morpheme studies were carried out in order to evaluate the influence of order of acquisition in language transfer (Dulay & Burt, 1973; Hakuta, 1976; Jiang, Novokshanova, Masuda, & Wang, 2011). According to them, the natural order is affected when a grammatical morpheme has a meaning in the L2 and no in the L1. Other studies were conducted to evaluate the effects of sequence of acquisition in language transfer (Pienemann, Di Biase, Kawaguchi, & Håkansson, 2005; Taylor, 1975; Wode, 1976). These studies showed the presence of language transfer effects when learners achieve a level of natural development that "allows them to access an L1 form that is similar or equivalent to the transfer language stage", (R. Ellis 2015, p. 137).

Lastly, it is important to mention two different principles about L1 transfer: *transfer to somewhere principle*, postulated by Andersen (1983) which claims that for transfer to take place there must be congruency between the L1 and the L2. Kellerman (1995) formulated the *transfer to nowhere principle* which suggests that transfer can be present even though there may not be similarities between L1 and L2. Thus, transfer may be not limited by the features of the native language or the target language.

2.6.2.5. Individual factors

Two are the factors that we are going to consider: age and language aptitude. In previous pages of this study, we considered these two factors as elements that affect L2 learning. Now, we are going to see their repercussions in relation to language transfer.

It is accepted in the literature (Birdsong, 2006; Bongaerts et al., 1997; Coppieters, 1987; R. Ellis, 1994a; R. Ellis, 2015; Granena & Long, 2013; D. Singleton, 2001) that learning a L2 in childhood or early adolescence facilitates the achievement of a more nativelike accent. For example, children being exposed to a L2 before they turn three, are very likely to attain a nativelike L2 pronunciation. In terms of transfer effects, this can be explained by the fact that those children depend themselves less on their L1. Thus, they experience a minor L1 transfer influence in their communication routine (Guion, Flege, Liu, & Yeni-Komshian, 2000). Older L2 learners, for their part, may be in advantage at the time to learn vocabulary, especially if the L1 and L2 share a considerable number of cognates and, if the nature of the both languages is similar (i.e. Spanish and Italian).

L2 aptitude is an influential factor in L1 transfer. According to some studies (Jarvis & Pavlenko, 2008; Sparks, Patton, Ganschow, & Humbach, 2009), it seems that learners with a more competent L2 aptitude are in a better position to transfer L1 features while learning a L2. At the same time, a study conducted to see the relation between working memory and language transfer (Trude & Tokowicz, 2011), shows that those learners with a more developed working memory tend to rely less on their L1, avoiding that way negative transfer.

2.6.3. Language transfer and the acquisition of Spanish determiners

One of the purposes of this study is to investigate the misuse of Spanish definite articles by L1 English learners of L2 Spanish.

To do so, in this section we are reviewing a series of studies that investigate both, the acquisition of definite NP interpretation in English and Romance languages and the specific relation between L1 transfer in the acquisition of Spanish determiners.

The generic interpretation of plurals with definite articles by two group of children, one of monolinguals L1 English and another one of monolinguals L1 Spanish in a preschool formal setting, has been investigated (Pérez-Leroux et al., 2004). The results showed that while the L1 Spanish learners considered definite plurals as generic most of the time, in the case of English-speaking children, it was observed that they tended as well to interpret definite plurals as generic, which is not correct in English.

A couple of studies have investigated the L1 acquisition of inalienable possession in Spanish, English and Dutch (Baauw, 1996; Pérez-Leroux et al., 2004). The results of these studies seem to indicate that the acquisition of generic reference and inalienable possession by L1 Spanish learners is normally satisfactory.

Another study (Serratrice, Sorace, Filiaci, & Baldo, 2009) investigated the interpretation of plural NPs in both English and Italian by English-Italian bilingual children. The study found transfer effects from English to Italian.

L1 transfer in L2 adult acquisition has also been investigated in different studies (Ionin & Montrul, 2010; Montrul & Ionin, 2012; Pérez-Leroux, Schmitt, & Munn, 2004; Slabakova, 2006)

The results suggest that L1 transfer effects influence significantly the development of the L2.

2.6.4. Summary

In this section, we referred to the effects that L1 transfer has in the acquisition of a L2 becoming one of the many components that take place in that process. Those effects are

continuous and extensive and can influence the correct production of the target language (positive transfer) or may be the cause of a series of mistakes in the output (negative transfer). Without the proper consideration of language transfer, it would not be possible to consider any L2 acquisition theory.

We reviewed the different factors that influence L1 transfer. That influence is clear. However, it would be very beneficial to establish a theory to tackle the question of the interaction among these factors (R. Ellis, 2015).

Several studies have investigated the L1 transfer phenomenon in the attainment of a L2 by both, children and adults. Since our present study is investigating the acquisition of Spanish determiners, we pointed out several examples of that research (i.e. generic interpretation of plurals; inalienable possession; interpretation of plural NPs) related to this.

The present study aims to develop the present lines of investigation, putting in common methods of instruction, type of knowledge, transfer and the existence of a significant relationship among them.

2.7. Gaps in Previous Research

The recent review of the literature has exposed several gaps about the different pillars on which this study is sustained, namely, instructed SLA, L2 knowledge, learning process, Spanish determiners as target features and language transfer. Particularly, we can refer to four main gaps.

The first gap covered by this study is the relationship between methods of instruction and the type of knowledge acquired by L2 learners. In the literature, we have noticed of several studies that carried out the investigation of both aspects separately but not the connection among all the elements implicated (implicit/explicit knowledge; implicit/explicit instruction). Regarding the type of L2 knowledge acquired, different approaches have been taken: on implicit and

explicit learning process (R. DeKeyser, 2008; N. Ellis, 1994; N. Ellis, 2015; J. H. Hulstijn, 2005); on implicit and explicit knowledge, difficulties and proficiency (R. Dekeyser, 2003; R. Ellis, 2006; Roehr, 2004); on implicit and explicit knowledge and reliable ways of measurement (Bowles, 2011; R. Ellis, 2004; R. Ellis, 2005a; Erlam, 2006; Godfroid et al., 2015; Gutiérrez, 2013). With respect to methods of instruction some studies investigated the explicit method (Akakura, 2011; Harley, 1989; Housen et al., 2005; Lyster, 1994; Saito & Lyster, 2012; Shintani, 2011). Others, the implicit method of instruction (N. Ellis, 1993; R. Ellis & He, 1999; S. D. Krashen & Terrell, 1983; Levelt, 1993; M. H. Long, 1991; Loschky & Bley-Vroman, 1993; Pica et al., 1993; Robinson, 1996; Robinson, 2007; Shintani, 2015a; Skehan, 1998). In the literature, we just have found one article that tackles the relation between explicit instruction and implicit and explicit L2 knowledge (Akakura, 2011). With the present study, we are trying to cope with this limitation expressed with the words by R. Ellis (2015): "We need studies that measure the effects of implicit and explicit instruction on both planned and unplanned linguistic features and that also document the kinds of interactions that occur and how these, to a greater or lesser extent, foster interactional competence", (p. 287). Consequently, it is vital for both, educators and students to find out which ways of instruction are the most effective and the type of knowledge that is developed as a result.

The second gap pertains to the relationship between the type of instruction used and the L1 transfer effects in the development of the L2 knowledge. The majority of transfer research has investigated transfer in connection with concrete linguistic aspects and factors: on cross-linguistic influence (Odlin, 1989); on phonological awareness (Durgunoğlu et al., 1993); in connection with the universal grammar (S. M. Gass, 2013; White, 1989); on negative transfer (Tomasello & Herron, 1989); in connection with heritage students (Ionin & Montrul, 2010;

Montrul & Ionin, 2012); on linguistic factors (Eckman, 1977; Stockwell, Bowen, & Martin, 1965); on psycholinguistic factors (Kellerman, 1979; D. Singleton, 1987); on developmental factors (Dulay & Burt, 1973; Pienemann et al., 2005; Taylor, 1975); on individual factors (Czinglar, 2012; Guion et al., 2000); and on contextual factors (Abdullah & Jackson, 1998; Sridhar & Sridhar, 1992; E. E. Tarone, 1982). However, there is a gap related to studies investigating whether language instruction can make an impact on language transfer. In the literature, there is just one study that refers to this issue (Spada & Lightbown, 1999). In this study, the type of instruction conducted was explicit and the target population was French children (age 11-12 years) studying L2 English. Therefore, this study expands this line of research by investigating the relationship between implicit and explicit methods of instruction and language transfer L1 English-L2 Spanish.

The third gap refers to the relationship between the age of L1 English learners and the development of L2 knowledge. The age of the learners in our study ranges from 14 to 18. This specific period has been acknowledged by researchers as adolescence. However, different sub-stages have been pointed out. Some scholars (Elliott & Feldman, 1990; Steinberg & Morris, 2001) suggest that this time should refer to middle adolescence while others, (Irwin et al., 2002) prefer to call it late adolescence. Regardless of this controversy, no studies have been conducted with adolescents on this specific matter which represents a great opportunity to shed some light into the fascinating theory of individual differences, where age is an essential factor. However, we can mention several studies that investigated SLA features with adolescents: the acquisition of the English auxiliary and its related structures, the negative and interrogative by six Spanish speaking subjects, two children (4 and 6), two adolescents (11 and 14) and two adults (25 and 33), (Cazden, 1975); the interaction and second language learning of French by two adolescent

immersion students (Swain & Lapkin, 1998). Other studies are samples of theoretical proposals related to age and SLA (S. D. Krashen et al., 1979; Nippold, 2007; Scarcella & Higa, 1982). Also, there are quite a few studies on L2 acquisition by children (McLaughlin, 2013; J. Paradis, 2007; Schwartz, 2004). Therefore, the present study is born with the aspiration to find some answers in that, for the most part, unexplored field of SLA in adolescence.

The fourth gap covered by this study depicts a contextual factor: the formal setting where the students received the L2 instruction. This gap is necessarily related to the previous gap (SLA in adolescence) and refers to the academic institution that facilitated the acquisition of L2 knowledge: a secondary school. Since most of the studies conducted on SLA are based on either, adults or children, we have a limitation in the research addressing the characteristics that a secondary school holds. A classroom is a formal macro-context of learning (R. Ellis, 2015). However, a secondary school classroom[25] is different from a college classroom: size, number of students, frequency and duration of Spanish classes, teachers' style, relationship student-teacher, etc. These elements are explained in more detail in the Chapter 3. We believe that they must be taken into a serious consideration due to their influence in the process of learning a L2. The comparison of the results from similar studies (i.e. Spanish determiners) in a different linguistic environment (college, secondary school, elementary school) may be crucial to help develop a more comprehensive SLA theory (M. H. Long, 1996; Pica, 1985; Pica, 1987).

2.8. Rationale for the Current Study

The main goal of this study is to address the above-mentioned gaps by investigating the impact of different methods of instruction and the role of language transfer in the acquisition of Spanish determiners by L2 adolescent English learners. To accomplish this objective, I

[25] Even the distinction between public and private institutions may be significant since for example, the classes size is smaller in private schools than in public ones.

investigate two different types of instruction provided at just one point in time to two groups of students with lower and higher proficiency level respectively. The methods of instruction were carried out during the winter trimester in a secondary school. As a vital part of this study, I measure the differences obtained in the acquisition of the implicit and explicit knowledge of the target features. By doing so, I add specific findings to the line of research oriented to enhance the reliability, and validity of mechanisms of assessment.

2.9. Research Questions (RQs)

The present study has been developed by seeking to address five research questions:

RQ1: Does type of instruction (implicit vs. explicit) have an effect of type of knowledge (implicit vs. explicit) as measured on a timed and untimed grammaticality judgment test?

RQ2: Are there any differences between the two proficiency adolescent groups regarding their implicit and explicit knowledge?

RQ3: Are there any correlations between the different tests of implicit and explicit knowledge and the measure of L2 achievement?

RQ4: Is the age of the learners an important factor in their learning process?

RQ5: Does the type of instruction (implicit vs. explicit) have an effect of transfer (L1 English-L2 Spanish?

Chapter 3: Research Design and Methodology

3.1. Introduction

In this chapter, I describe the main aspects related to the method and design of this research (Mackey & Gass, 2015). Thus, I start describing the participants (see Table 5). After that, I refer to the different operationalizations carried out in this study (i.e. implicit and explicit L2 knowledge, language transfer and L2 proficiency level). Then, I explain the scoring and coding procedures for all tasks along with the statistical analyses applied to them. Finally, I describe the results, method and participants of the pilot study.

3.2. Description of Participants

The experimental group consisted of L2 learners of Spanish at a private High School in the Southeast of the United States. The group consisted of forty-five high school students (23 males, 22 females, average age 15, range 14-18, average age of acquisition of Spanish 12.5, age range 8-18). All the participants were born and raised in the United States in English-speaking families. These students were enrolled in four different classes of Spanish as the L2: two classes of beginners, (Spanish 1), and two more classes of intermediates, (Spanish 3). 17 participants had traveled to a Spanish-speaking country (range of stay from one week to three months). Their mean self-assessment in Spanish was 2.3 (range 1-3.5, where 1 = low proficiency and 5 = native-like), and their self-assessment in English was 4.9. English is the dominant language in this group. The comparison group consisted of 10 native Spanish speakers, all of them monolingually raised and born in Spain (mean age 41). Eight of them were tested in Spain and the other two in the United States where they were working as Spanish teachers, having moved there as adults.

3.2.1. Language background questionnaire

This questionnaire provided some personal information about the participants such as name, age, gender or place of birth. Apart from that type of information, this questionnaire gathered data related to the use of Spanish outside the school, the dominant language, years of instruction received, exposure to Spanish (by living overseas, on vacation, etc.) and a self-assessment of level of Spanish and English language. This language background questionnaire is similar to those used in previous lines of research (Dörnyei & Taguchi, 2009; Mackey & Gass, 2015). See Table 5 related to participants' background.

Table 5. Participant background

Variables	*Inclusion criteria*
a) Age	14-18 years old
b) Native language(s)	English
c) Prior study: romance languages	Little to no formal study
d) Spanish L2 background	Post-puberty age of first exposure
e) Study abroad: Spanish speaking country	≤ 4 weeks
f) Placement test	Within 3 SDs ± mean for proficiency group

As Table 5 shows, to be part of this study, the participants had to meet some criteria: a) being between 14 and 18 years old; b) having English as their native language, (bilinguals were excluded from this study); c) having little or no exposure to Spanish learning; d) report a late age of first exposure to Spanish or after puberty; e) having spent 4 weeks or less in a Spanish-speaking county; and f) report within 3 SDs ± mean for both proficiency groups. Appendix A shows the language background questionnaire used in this study.

3.3. Operationalizations

3.3.1. Implicit and explicit L2 knowledge

It has been accepted in the literature (R. Dekeyser, 2003; N. Ellis, 1994; N. C. Ellis, 1994; N. Ellis, 2015; Leow, 2000; Leow, 2015) that SLA requires both implicit and explicit

learning. The consequence of this learning process is the acquisition of implicit and explicit L2 knowledge. Thus, if we want to know how much knowledge our learners acquired, it is vital to develop some reliable mechanisms for measuring both kinds of knowledge.

Doughty (2003) mentions four measures of L2 ability (see Table 6) which were used by Norris & Ortega (2000). A recent meta-analysis of thirty-four studies (Goo et al., 2015) reviewed Norris & Ortega's (2000) research, comparing their results and findings.

Table 6. Measures of L2 ability. Measure of L2 ability (Doughty, 2003) from Norris & Ortega (2000)

Constrained, constructed responses	a) Written production (i.e. correct erroneous sentences) b) Oral production (i.e. remembering specific sentences)
Metalinguistic judgment responses	
Selected responses	a) Comprehension (i.e. matching pictures to sentences) b) Production (i.e. completing a sentence with word bank) c) Other (i.e. words recognition)
Free responses	a) Comprehension (i.e. translation) b) Production (i.e. descriptions, stories)

However, those measures are not related to a type of knowledge. To solve this, R. Ellis, (2009) developed an operational framework based on seven criterial features: 1) Degree of awareness, 2) Time available, 3) Focus of attention, 4) Systematicity, 5) Certainty, 6) Metalanguage, 7) Learnability. Based on these features, five tests were designed to obtain reliable measures of both implicit and explicit knowledge. Table 7 (R. Ellis, 2009) depicts the different tests, type of measure, and type of knowledge measured.

Table 7. Reliable tests measuring implicit/explicit knowledge

Test	*Type of Measure*	*Type of knowledge measured*
1. *Elicited Oral Imitation Test*	Constrained, constructed response-production	Implicit knowledge
2. *Oral Narrative Test*	Free production	Implicit knowledge
3. *Timed Grammaticality Judgment Test*	Metalinguistic judgment	Implicit knowledge
4. *Untimed Grammaticality Judgment Test*	Metalinguistic judgment	Explicit knowledge
5. *Metalinguistic Knowledge Test*	Selected responses	Explicit knowledge

Based on this line of research and the logistical conditions of our study, I used an adapted version of the Timed Grammaticality Judgment Test (TGJT) and the Untimed Grammaticality Judgment Test (UGJT), as measures of implicit knowledge and explicit knowledge respectively. These versions complied with the admitted requirements in the literature (R. Ellis, 1991; S. Gass, 1994; Gutiérrez, 2013; Han, 2000; Mandell, 1999; Miller, Leonard, & Finneran, 2008; Munnich, Flynn, & Martohardjono, 1994). I administered first the TGJT to prevent participants from developing explicit knowledge that they then would use during the timed tests which would decrease the validity of these measures. Thus, the same GJT was given twice: the first time, with time constraints and the second one, with no time pressure. The task consisted of 72 Spanish sentences, being half of them fillers with the purpose of functioning as a measure of L2 achievement. The timing of GJTs (timed and untimed) followed the sequence depicted in Figure 4 (Research design). Since I had both proficiency groups every other day, I administered these

tasks during consecutive class periods in two assessment waves: one before the instruction and the other one, after the instruction of Spanish determiners took place.

3.3.1.1. Timed Grammaticality Judgment Test (TGJT)

For this test, we included 72 sentences. Half of them were designed to be target sentences. At the same time, half of the target sentences (18) and half of the fillers (18) were designed to be grammatical and the other half, ungrammatical. These 72 sentences were written in Spanish. The sentences were shown in written form on a computer screen. The target structures aimed to test basic use of Spanish determiners, specifically three different cases as shown in examples 1 and 2: compulsory use of definite article in second mention ([1a] vs. [1b]), impossibility of a bare singular count noun ([1c vs. 1d]) and the use of generic bare plural subjects, as in Example 2, which are grammatical in English and ungrammatical in Spanish.

EXAMPLE 1

a. *Ramón tiene un hermano. <u>El hermano</u> se llama Raúl.*

"Ramón has a brother. <u>The brother</u>'s name is Raúl."

b. *Carolina tiene una tortuga. <u>Una tortuga</u> se llama Andrea.*

"Carolina has a turtle. <u>A turtle</u> is named Andrea."

c. *Ramiro observó la escena. <u>Una mujer</u> estaba llorando.*

Ramiro observed the scene. <u>A woman</u> was crying.

d. *María vende una chaqueta. <u>Chaqueta</u> es bonita.*

"María is selling a jacket. <u>Jacket</u> is pretty."

EXAMPLE 2.

El caballo de Rosa es muy bonito. <u>Caballos</u> son hermosos.

"Rosa's horse is very cute. <u>Horses</u> are very beautiful."

The other half, fillers were designed using six of the grammatical structures as in Bowles (2011). The sentences in this TGJT were presented on a self-paced PowerPoint slide show. The participants were told to indicate if those sentences were grammatical or ungrammatical, having to correct the ungrammatical ones on a piece of paper provided. Regarding the time limit, we followed the previous literature (Bialystok, 1979; R. Ellis, 2005a; Han, 2000; Loewen, 2009). We allowed 3 seconds to process the sentences and an extra 3 seconds to write the response on the paper with the correction if necessary. The objective of the processing time was to make sure that participants accessed implicit knowledge instead explicit knowledge (premised to be fast, unverbalizable, low cognitive effort, etc.), by not allowing too much time. This task was administered twice, before and after implicit and explicit instruction. Appendix B shows the TGJT script.

3.3.1.2. Untimed Grammaticality Judgment Test (UTGJT)

The UGJT (see Appendix C) was used as a measure of explicit knowledge (Bowles, 2011; R. Ellis, 2005a; Loewen, 2009). This untimed GJT consisted of the same 72 sentences as in the TGJT, half of them fillers. The participants were asked to evaluate the grammaticality of each Spanish sentence. If the answer was No for ungrammatical, they were asked to provide a correction of the sentence in Spanish. The target sentences were designed to test the same target structures as in the TGJT. This time, there were no time constraints to do this test.

3.3.2. Implicit and Explicit methods of instruction

Forty-five adolescent learners of Spanish L2 were part of this study at a private secondary school in the United States. These students were enrolled in four different classes of Spanish. Two of those classes were of beginners (Spanish 1) and the other two, intermediates (Spanish 3).

For the same level of proficiency, lower (Spanish 1) and higher (Spanish 3), both instructional methods (implicit/explicit) were applied. (See Table 8)

Table 8. Proficiency groups and method of instruction

Level of proficiency	*Groups*	*Number of students*	*Method of instruction used*
Lower	A	11	Implicit
	B	12	Explicit
Higher	C	11	Implicit
	D	11	Explicit

Five target structures were chosen from the Spanish determiners system regarding their use in the following cases: second mention; impossibility of bare singular count noun; generic bare plural subjects; definite plurals in generic/specific contexts; and definite articles in alienable possession contexts. The first three target structures were used to investigate the presence of any significant relationship between type of instruction, type of knowledge, L2 achievement and age. The last two target structures, were used to investigate the relationship between methods of instruction and language transfer. Table 9 depicts the relationship between target structures, method of instruction, and object of study.

Table 9. Relation between target structures, method of instruction and object of study.

Method of instruction	*Target structures*	*Object of study*
Implicit/Explicit	Second mention	Implicit/explicit knowledge; L2 achievement; age
Implicit/Explicit	Impossibility bare singular count noun	Implicit/explicit knowledge; L2 achievement; age
Implicit/Explicit	Generic bare plural subjects	Implicit/explicit knowledge; L2 achievement; age
Implicit/Explicit	Definite plurals (DPs) in	Language transfer

	generic/specific contexts	
Implicit/Explicit	Definite plurals in alienable/inalienable contexts	Language transfer

The instructed SLA methodology used in this study, followed a previous line of research (Scott, 1989; Scott, 1990), which I explain next.

3.3.2.1. Implicit instruction

We used the same target structures (basic use of Spanish determiners) for both methods of instruction. For the first ten minutes of five consecutive class periods, the teacher read a story in Spanish. Each story contained at least eight uses of one of the five grammatical structures of Spanish determiners (compulsory use of definite article in second mention; impossibility of bare singular count noun; generic bare plural subjects, which is grammatical in English and ungrammatical in Spanish; definite plurals in generic/specific contexts; and definite articles in alienable possession contexts). After the reading, there followed a brief period of questions to make sure that the students had understood the story of that session. Immediately after, the story was read one last time. On the fifth and last day, there was extra time provided to read the five episodes together. There was not oral or written practice before or after the reading or questioning time. Participants were not informed that they were exposed to any specific grammatical structure.

This instructional method was applied to two different groups: one of lower proficiency (11 students) and another one with higher proficiency (11 students). Appendix D shows a text example of this type of instruction.

3.3.2.2. Explicit instruction

As discussed previously, we followed the same strategy as in (Scott, 1989; Scott, 1990) related to instructional methods in French. The methodology consisted of an explicit presentation of each one of the above-mentioned five rules of Spanish determiners. The presentation lasted no more than 10 minutes for five different consecutive class periods and it took place at the beginning of each class period. The time of each class varied, since the school's schedule rotates daily. During this presentation, the teacher introduced the grammatical rule followed by five example sentences of the targeted structure, with no oral or written practice. Appendix E shows an example of the explicit grammar lessons used.

This explicit method of instruction was applied to two different groups: one of lower proficiency (12 participants) and another one with higher proficiency (11 participants).

3.3.3. Language transfer

One of the purposes of this study is to contribute to the line of research based on the misuse of definite articles in Spanish due to influence from English (Ionin & Montrul, 2010; Pérez-Leroux et al., 2004; Slabakova, 2006). At the same time, we are expanding this line of research, investigating whether there are any significant effects on language transfer due to the use of a method of instruction. The operationalizations carried out to tackle this purpose are centered in the use of three tasks, following previous studies (Ionin et al., 2013; Montrul, 2010; Pérez-Leroux et al., 2004); namely, a truth-value judgment task (TVJT), a picture-sentence matching task (PSMT, and a sentence-picture acceptability judgment task (SPAT).

3.3.3.1. Truth-Value Judgment Task (TVJT)

This task was designed to investigate the participants' interpretation of plurals NPs in Spanish. The task is similar to the one used in previous lines of research (Montrul & Ionin, 2012; Pérez-Leroux et al., 2004). The task consisted of 24 test items: 16 items using definite plurals

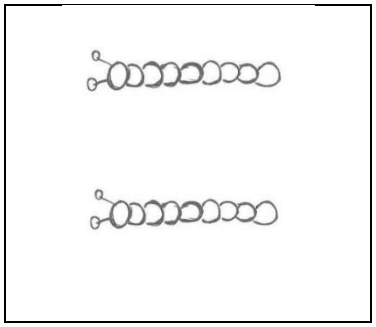
and 8 using demonstrative plurals. There were also 36 filler items with a total of 60 items. The fillers consisted of aspectual and temporal interpretations. Each item included a story with a picture and followed by a test sentence. The participants had to judge the test sentence as true or false in the context of the story. Each test story contained three sentences: the first two, using plural definite articles and the third one using a plural demonstrative. In the case of the sentences including plural definite articles, the participants had to choose between a specific and a generic interpretation. The target items in that type of sentences were designed to be true on the specific reading and false on the generic reading in the first sentence (3a, 4a) and false on the specific reading and true on the generic reading in the second one (3b, 4b). Half of the demonstrative plural sentences were designed to be false on the specific reading (3c) and half were designed to be true (4c). Sample stories are given in Examples 3 and 4.

EXAMPLE 3

Sample picture with test story: Spanish TVJT

El otro día caminando me encontré con un ciempiés sin patas. ¡Qué extraño! Los ciempiés tienen muchas patas.

The other day I went for a walk and I saw two centipedes without legs. It was very strange! Centipedes have a lot of legs.



a. *Los ciempiés no tienen patas.* TRUE (specific)

FALSE (generic)
['The centipedes don't have legs']

b. *Los ciempiés tienen patas.* *TRUE* (generic)
FALSE (specific)
['The centipedes have legs']

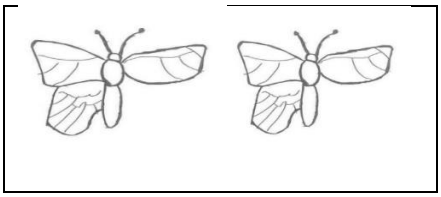
c. *Estos ciempiés tienen patas.* *TRUE*
['These centipedes have legs'] FALSE

EXAMPLE 4

Sample picture with test story: Spanish TVJT

La semana pasada vi un documental sobre mariposas con 3 alas. Eras muy raras.

Last week I watched a documentary about butterflies with just three wings. That's so unusual.



a. *Las mariposas tienen tres alas.* TRUE (specific)
FALSE (generic)
['The butterflies have three wings']

b. *Las mariposas tienen cuatro alas* FALSE (specific)
TRUE (generic)
['The butterflies have four wings']

c. *Estas mariposas tienen tres alas* TRUE
FALSE
['These butterflies have three wings']

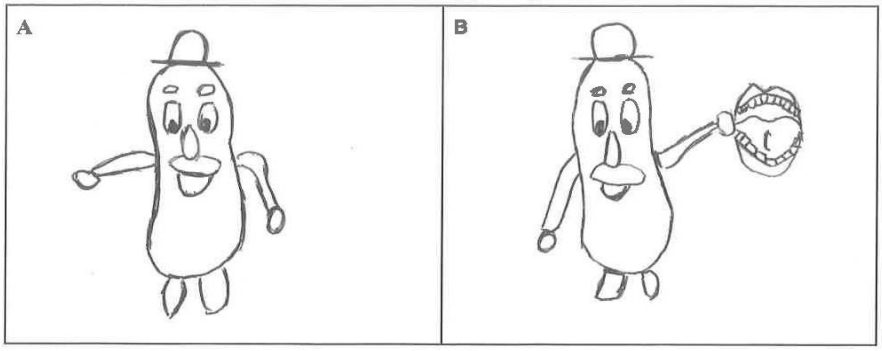
If L2 learners transfer the English definite system into Spanish, it was expected to find that the participants allow more specific than generic interpretations of definite plurals in comparison to native Spanish speakers. Appendix F shows the TVJT script used in this study.

3.3.3.2. Picture-Sentence Matching Task (PSMT)

This task was designed to test the interpretation of definite and possessive determiners in alienable and inalienable possession contexts. Following Montrul & Ionin (2012), the PSMT included 14 target items and 24 fillers regarding the interpretation of pronouns and singular and plural objects of possession. Each test item consisted of two pictures, A and B presented side by side followed by two sentences, one using the definite article and another one using the possessive form. Participants were instructed to read each sentence and determine whether they described picture A, picture B, or both as in Example 5.

EXAMPLE 5

Sample pictures and test sentences used in the PSMT



a. Mr. Potato abrió la boca A B Both
'Mr. Potato opened the mouth'
b. Mr. Potato abrió su boca A B Both
'Mr. Potato opened his mouth'

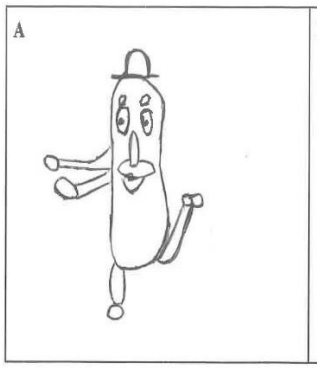
In English, the interpretation of alienable possession is grammatical by using definite determiners while the inalienable possession needs the use of possessive determiners. In Spanish both interpretations are grammatical. Appendix G shows the PSMT script.

3.3.3.3. Sentence-Picture Acceptability Judgment Task (SPAT)

The SPAT was created to test the grammatical preference between the definite determiners and the possessive determiners in alienable and inalienable possession contexts. The SPAT included 24 test items, 10 of those were target items. The rest, 14, were fillers and included the use of *ser* vs. *estar,* bare plural subjects and the acquisition of */a/* personal. The target items consisted of a picture followed by 2 sentences, one of them using a definite determiner and the other one using a possessive determiner. Participants had to express the acceptability/unacceptability of the sentences on a scale ranging from 1 (unacceptable) to 5 (acceptable). The SPAT incorporated 12 of the target sentences (6 with determiners and 6 with posssessives) and 6 pictures from the inalienable possession from the PSMT. Also, it used 8 target structures and 4 pictures showing alienable possession. See Examples 6 and 7 for inalienable and alienable possession contexts respectively. Also, Appendix H shows the SPAT script.

EXAMPLE 6

Sample picture and sentences in an inalienable possession context.

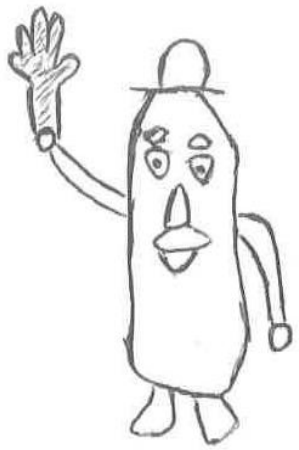


Mr. Potato levantó la pierna 1 2 3 4 5
[‘Mr. Potato raised the leg’]

Mr. Potato levantó su pierna 1 2 3 4 5
[‘Mr. Potato raised his leg’] 1 = unacceptable 5 = acceptable

EXAMPLE 7

Sample picture and sentences in an alienable possession context.



a. Mr. Potato levantó la mano 1 2 3 4 5
[Mr. Potato raised the hand']

b. Mr. Potato levantó su mano 1 2 3 4 5
[Mr. Potato raised his hand'] 1 = unacceptable 5 = acceptable

In the SPAT, it was expected from native speakers to consider of higher acceptability the sentences with definite articles in an inalienable context. In contrast, in an alienable context, it was expected that those sentences with definite articles were rated lower than the sentences with possessives. With regard to Spanish L2 learners, if they use the English interpretations, they will rate phrases with possessive determiners higher than sentences with definite determiners in an inalienable context.

3.3.4. L2 proficiency level

The operationalization of the Spanish L2 proficiency level was carried out as institutional enrollment by which the forty-five participants had been placed in four different groups (2 groups of Spanish 1 and two groups of Spanish 3). All the L2 learners and the Spanish native

participants took a Spanish proficiency test included in the untimed grammaticality judgment task, whose questions served at the same time as fillers. This proficiency test consisted of 36 multiple choice questions based on some of the same categories used in previous research (Bowles, 2011; R. Ellis, 2005a) . The maximum score on this proficiency test was 36 using raw scores (mean accuracy 17.5, SD = 7.31, range 12.2-24.4). According to the placement test administered, we grouped the L2 learners into two groups, one of lower proficiency (beginners) and another one of higher proficiency (intermediates). A comparison of the pretest scores across groups was run. There appears to be a statistically significant distinction between these two groups. Table 10 provides results of non-parametric Kruskal-Wallis tests to compare the four groups (lower/higher proficiency combined with explicit/implicit teaching method) at the pretest.[26]

Table 10. Kruskal-Wallis Results for Pretest Score Comparisons

Measure	*P-value*
UGJT Ungrammatical	*0.041*
TGJT Ungrammatical	*0.028*
L2A	*0.032*
UGJT Grammatical	*0.012*
TGJT Grammatical	*0.039*

The results of the Kruskal-Wallis tests indicate that the four groups demonstrate significant differences in test scores at the time of the pretest, and the groups are not equivalent with respect to the measures in this study at the time of the pretest. This was done to confirm group assignments and make sure that there were significant differences between proficiency groups.

Figure 2 shows the distribution of scores in the Spanish proficiency/placement test.

[26] Nonparametric analyses were appropriate as pretest scores alone were not normally distributed.

FIGURE 2.

Scores in the Spanish proficiency test (max = 36)

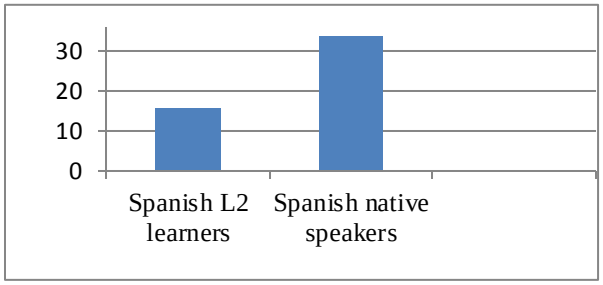
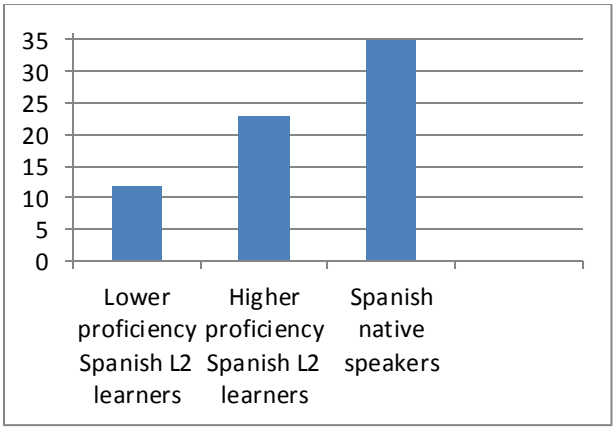


Figure 3 shows the distribution of scores of Spanish L2 learners grouped as lower proficiency and higher proficiency group in comparison with the Spanish native speakers group.

FIGURE 3. Distribution of scores comparing L2 proficiency between L2 learners and native speakers.



3.4. Research Design

The design of this empirical study is quasi-experimental since participants were not randomly assigned to class groups; rather, as mentioned above, they were placed into one of the proficiency groups, namely, lower-beginners (Spanish 1) and higher-intermediates (Spanish 3), based on institutional enrollment and performance of the L2 achievement test included in the TGJT. Moreover, the design of the study is correlational because it is of interest to determine if there is a relationship between variables. Lastly, the study's design is also predictive since it

applies statistical methods to predict the likelihood of future outcomes (Mackey & Gass, 2015). Thus, this paper investigates the effects of three independent variables: (1) type of instruction (implicit/explicit); (2) learner proficiency level (higher/lower); and (3) language transfer. Dependent measures include grammaticality judgment tests (timed and untimed with grammatical and ungrammatical items), a TVJT, a PSMT, a SPAT, and a second language achievement task. The administration of all measures regarding the above variables took place at two points in time: Time 1 (T1) was before instruction, and Time 2 (T2) happened after instruction. Thus, the tasks in each Time (1 and 2) were completed in two sessions of two consecutive regular classes. In the first session, participants completed the language background questionnaire[27], the timed GJT, and the TVJT. In the second session, participants completed the PSMT, the SPAT, and the untimed GJT with the proficiency test questions included as fillers. Figure 4 shows the research design at two points in time for a total of four research sessions. All the tasks were completed individually and on paper, except the timed GJT which was administered on a computer. The sentences of this test were shown on a PowerPoint presentation through a slow-paced presentation. The total participation time to complete all sessions varied according to each participant. On average, it took approximately four to five hours.

[27] Only during Time 1

FIGURE 4.

Research design.

Time1 Before Instruction

Session 1		
Language Background Questionnaire (15 min)	Timed Grammaticality Judgment Test (20 min)	Truth Value Judgment Task (20 min)

Session 2		
Picture-Sentence Matching Task (20 min)	Sentence-Picture Acceptability Task (20 min)	Untimed Grammaticality Judgment Task* (30 min)

Time2 After Instruction

Session 3	
Timed Grammaticality Judgment Test (20 min)	Truth Value Judgment Task (20min)

Session 4		
Picture-Sentence Matching Task (20 min)	Sentence-Picture Acceptability Task (30 min)	Untimed Grammaticality Judgment Task* (30 min)

*Included the L2 Achievement Test as filler questions.

3.5. Statistical Procedures

3.5.1. Introduction

In this section, an overview of all statistical procedures is presented, including reliability estimates. All the research questions are considered taking into account their statistical measures used for each one of them. All analyses were performed using IBM SPSS Statistics 23, and raw scores.

To prevent Type I error from happening (i.e. detecting an effect that is not present), the (α) level of statistical significance was set to .05.

3.5.2. Tests of reliability

We calculated the reliability of the tests using Cronbach's Alpha. The results for each test (TGJT: α = .815; TVJT: α = .783; PSMT: α = .802; SPAT: α = .815; UGJT: α = .761) reflect an acceptable internal consistency, which means that these tests were reliable (Field, 2009; Larson-Hall, 2015). To ensure the reliability of these measures, a pilot study was carried out. Results from this pilot study confirmed the method´s reliability, but were not used to form conclusions about final learning. These results are discussed at the end of this chapter.

3.5.3. Research question 1 & 2. Effects of method of instruction (implicit vs. explicit) and level of proficiency (lower vs. higher) in the acquisition of L2 knowledge.

All statistical analyses were performed using the Statistical Package for the Social Sciences (SPSS-23.0). The alpha level was set at 0.05 throughout.

For RQ1 and RQ2 Ancova (analysis of covariance) was selected as the appropriate method to perform these analyses because it allows examination of the effect of method, proficiency, and both together (i.e., allows determination of whether the method made a difference for one level of proficiency but not the other). It also allows the examination of

posttest scores specifically (those that would have been affected by the teaching method) while adjusting for pretest scores that are different across individuals.

ANCOVA requires a normal distribution of the data, and so the residuals of the models were each checked for normality. The resulting distributions were generally normally distributed. Results of Shapiro-Wilk tests on the ANCOVA models are provided in Table 11. In these tests, larger p-values indicate no significant lack of fit from a normal distribution; the only p-value less than the significance level of 0.05 is that of the UGJT Grammatical measure. Given that the majority of the measures are normally distributed, and a visual inspection of the residuals from the UGJT Grammatical indicated no major skew or outliers, the ANCOVA will be used for analyses.

Table 11. Results of Shapiro Wilk tests for RQ 2 and RQ 3.

Measure	*W statistic*	*P-value*
UGJT Ungrammatical	0.952	0.061
TGJT Ungrammatical	0.975	0.442
L2A	0.975	0.430
UGJT Grammatical	0.917	0.004
TGJT Grammatical	0.957	0.094

UGJT: Untimed Grammaticality Judgment Test; TGJT: Timed Grammaticality Judgment Test; L2A: Language achievement test

3.5.4. Research question 3. Relationship between L2 achievement and pretest, posttest, and changes in total scores on the UGJT and TGJT.

In order to determine whether there is a relationship between second language achievement and pretest, posttest, and changes in total scores on the UGJT and TGJT, an

analysis called Spearman's rho is used. Spearman's rho is a nonparametric correlation that result in a number between -1 and 1.[28]

If the Spearman's rho is close to 1, that implies a strong positive correlation (as one score increases across the students, the other increases).

If the Spearman's rho is close to -1, that implies a strong negative correlation (as one score increases across the students, the other decreases).

If the Spearman's rho is close to 0, that implies there is not a correlation between the two scores (if one score is increasing across the students, that is unrelated to how the other score changes across students).

Table 12 provides Spearman's rhos and p-values indicating statistical significance across language achievement and the ungrammatical (explicit) GJT scores. Note that in each case, the L2A score that is used is from the untimed pretest, as that represents second language achievement prior to the start of the experiment.

Table 12. Spearman's rho Results for Correlation of Second Language Achievement and Ungrammatical (explicit) GJT Score

Timed/Timed	*Test*	*Spearman's rho*	*P-value*
Untimed	Pretest	0.458	.002
Untimed	Posttest	0.285	0.058
Untimed	Change	-0.407	0.005
Timed	Pretest	0.220	0.146
Timed	Posttest	0.143	0.348
Timed	Change	-0.188	0.215

Table 13 provides Spearman's rhos and p-values indicating statistical significance across language achievement and the grammatical (implicit) GJT scores. Again, in each case, the L2A

[28] A nonparametric correlation measure was appropriate as the more typical Pearson correlation requires a bivariate normal distribution—both L2A and GJT scores would need to be normally distributed.

score that is used is from the untimed pretest, as that represents second language achievement prior to the start of the experiment.

Table 13. Spearman's rho Results for Correlation of Second Language Achievement and Grammatical (implicit) GJT Score

Timed/Timed	*Test*	*Spearman's rho*	*P-value*
Untimed	Pretest	0.116	0.447
Untimed	Posttest	-0.037	0.809
Untimed	Change	-0.111	0.467
Timed	Pretest	-0.102	0.506
Timed	Posttest	-0.071	0.642
Timed	Change	-0.020	0.895

3.5.5. Research question 4. Relationship between participants age and pretest, posttest, and changes in total scores on the TGJT and UGJT.

To determine whether there is a relationship between the age of participants and L2 knowledge the analysis Spearman's rho is used. As mentioned above, Spearman's rho is a nonparametric correlation that result in a number between -1 and 1.

3.5.6. Research question 5. Determine how explicit and implicit teaching methods are related to language transfer skills as measured by several test scores (TVJT, PSMT, and SPAT).

Unlike in the previous report concentrating on questions 1-4 of this research project, very few of the measures taken resulted in normally distributed residuals when using an ANCOVA model. Results of the Shapiro Wilk tests for each measure are provide in Table 14. Note that normality was not tested for the PSMT as these are percentages that must add to 100 and this kind of distribution will not be normally distributed. Only one test (the SPAT Inalienable definite articles) was not significant at the 0.05 level of significance.

Table 14. Shapiro Wilk test results for RQ5

Test	*Measure*	*W statistic*	*P-value*
TVJT	DefP	0.883	<0.001
	DemP	0.787	<0.001
SPAT	IDA	0.955	0.081
	IPD	0.806	<0.001
	ADA	0.723	<0.001
	APD	0.939	0.020

DefP: definite plurals; DemP: demonstrative plurals

IDA: Inalienable Definite Article; IPD: Inalienable Possessive Determiner; ADA: Alienable Definite Article; APD: Alienable Possessive Determiner.

Because these tests (TVJT and SPAT) are not normally distributed, non-parametric tests to compare across the groups were used (Corder & Foreman, 2014). These tests cannot account for pretest scores while examining posttest scores, and so test results will be provided to compare pretest scores, posttest scores, and changes in scores individually across the groups.

Four different statistical analyses were run for each of the following measures:

1. TVJT. Definite plural analysis.
2. TVJT. Demonstrative plural analysis.
3. PSMT. Definite article analysis
    a. Alienable context.
    b. Inalienable context.
4. PSMT. Possessive analysis.
    a. Alienable context.
    b. Inalienable context.
5. SPAT.

a. Inalienable definite articles (IDA).

b. Inalienable possessive determiners (IPD).

c. Alienable definite articles (ADA).

d. Alienable possessive determiners (APD).

Initially, the two groups of students using different learning methods were compared regardless of proficiency level with respect to pretest, posttest, and change in scores from pretest to posttest. This comparison was done using a Mann-Whitney U test (McKnight & Najab, 2010; Ruxton, 2006), a nonparametric test to compare the explicit and implicit groups to one another.

Next, the two groups of student at different proficiency levels were compared, regardless of teaching method, with respect to pretest, posttest, and change in scores from pretest to posttest. This comparison was also done using a Mann-Whitney U test, a nonparametric test to compare the higher and lower efficiency groups to one another.

Because a comparison of all four groups may find some more subtle differences (for example, differences in the teaching methods within the high or low proficiency group not present in the other group), nonparametric Kruskal-Wallis (Breslow, 1970; McKight & Najab, 2010) tests are used to compare the four groups to one another on the pretest, posttest and changes from pretest to posttest.

Finally, it is of interest to compare each of these four groups to the group of native speakers.

3.6. Pilot Study

3.61. Introduction

The pilot study was carried out in fall trimester of 2015. The purpose of it was to identify any issue or conflict, and use that information to prevent those problems from happening before the beginning of the main study.

3.6.2. Participants

Twenty participants from regular classes of Spanish completed four pilot study sessions (11 female; 9 male) with 10 beginning learners and 10 intermediate learners (Mean age – 16.24 years; Max – 17/Minimum- 14 years). As previously mentioned, the main background requirement to be a part in this study required that participants were native English-speakers with no knowledge of any other romance language. In exchange for participating in this pilot study, students received 10 points extra credit.

3.6.3. Method

The objective of the pilot study was to make sure the assessment materials were internally consistent. All participants in the pilot study completed the different tasks in the same order as in the main study (See figure 4). All the tasks were performed as expected without any issue of concern.

3.6.4. Results

As it is noted below, task scores showed high reliability coefficients. (TGJT: $\alpha = .826$; TVJT: $\alpha = .791$; PSMT: $\alpha = .833$; SPAT: $\alpha = .811$; UGJT: $\alpha = .759$). Pilot testing proved itself being very useful since several benefits were achieved: (1) Dress rehearsal: it was verified that the facilitator was ready with all the needed materials and logistics prepared (i.e. handouts printed, computer programs working, rooms available); (2) Test the tasks: participants understood the tasks, stating that they were clear and well explained; (3) Timing: the design depicted in Figure 4 was effective and smooth. Pilot participants completed the tasks with the assigned specifications with no problems at all; (4) Data you might use: the data obtained in the pilot study served as an indication that the study had been planned well. No conclusions regarding final learnings were made.

Chapter 4: RESULTS

4.1. Introduction

To investigate the effects of the methods of instruction (implicit/explicit) on both, the acquisition of L2 knowledge in Spanish and transfer L1 English – L2 Spanish, a series of quantitative statistical analyses were run among the proficiency groups (lower/higher). Also, descriptive statistical results are provided along with results based on inferential statistical procedures which helped answer the five research questions (RQ) of the present study.

4.2. Research Question 1

We divided the Timed and Untimed GJT scores into grammatical and ungrammatical sections, following the R. Ellis's (2005) approach. According to R. Ellis, the grammatical sections in timed and untimed GJTs could be a measure of implicit knowledge, while the ungrammatical sections in both tests might be a measure of explicit knowledge as in Gutierrez (2012, 2013). To verify this hypothesis, we carried out a principal component factor analysis and two confirmatory factor analyses to examine the structure of the 5 pretests scores (UGJT grammatical, UGJT ungrammatical, TGJT grammatical, TGJT ungrammatical and L2 achievement measure).

In relation to the principal components factor analysis, an orthogonal rotation method and a varimax rotation were selected. The Kaiser-Meyer-Olkin statistic, which is a measure of sampling accuracy proved to be adequate with a value of .52[29].

In Table 15 we are presenting the initial factor analysis, which contains five components. As in previous studies (R. Ellis, 2005a; Gutiérrez, 2012; Serafini, 2013) it was decided to specify

[29] A high KMO indicates that variables measure a common factor, and a low KMO indicates the variables are not measuring a common factor and should not be factored.

a two-factor solution. These two factors are the ones with eigenvalues higher than 1. The selected two components represent a 62.5 % of the total variance.

Table 15. Principal component factor analysis.

Component	*Eigenvalue*	*Variance*[a]	*Cumulative*[a]
1	1.839	36.799	36.799
2	1.286	25.729	62.509
3	0.821	16.425	78.934
4	0.689	13.780	92.714
5	0.364	7.286	100

Table 16 depicts the loadings for the two factors selected. The high loadings of the ungrammatical sections of the timed (TGJTUnPre) and untimed (UGJTUnPre) grammaticality judgment pretest, and L2APre (all greater than 0.69) on Factor 1 indicate these are measuring a common underlying factor; the high loadings of grammatical sections of the timed (TGJTGrPre) and untimed (UGJTGrPre) grammaticality judgment pretest on Factor 2 indicate these are measuring an underlying common factor. A confirmatory factor analysis run in RStudio with this model showed no significant lack of fit ($\chi^2(4) = 3.26$, $p = 0.516$)[30]. According to the results of the principal component analysis and the confirmatory factor analysis, the grammatical sentences in the timed and untimed GJT are measuring implicit knowledge and the ungrammatical tests and L2A are measuring explicit knowledge. These results allow me to identify grammaticality rather than time pressure as the essential variable in this factor analyses (Gutierrez 2012, 2013).

[30] I was unable to produce a CFA model for an alternative that groups the untimed tests together and the timed tests together, due to mathematical convergence problems. These problems may be due to this grouping being a poor fit to the data.

Table 16. Loadings for principal components factor analysis.

Test	*Component 1*	*Component 2*
UGJT Grammatical	-0.070	0.815
UGJT Ungrammatical	0.867	-0.059
TGJT Grammatical	-0.180	0.743
TGJT Ungrammatical	0.750	0.240
L2A	0.698	0.089

TGJT: timed grammaticality judgment test; UGJT: untimed grammaticality judgment test; L2A: language achievement test; Un: ungrammatical; Gr: grammatical

The participants' total scores on the UGJT (grammatical and ungrammatical) and the TGJT (grammatical and ungrammatical), as well as their L2 achievement scores, are summarized in Tables 17-21, respectively. These scores are broken down according to student group, and are given for both, pretest and posttest, as well as the change from pretest to posttest. Note that a group of 10 native speakers who only took the test one time is also included for comparison purposes where data are available.

Table 17. Summary Statistics of UGJT Grammatical by Group for Pretest and Posttest

Proficiency	Method	Time	Mean	Median	SD	Minimum	Maximum
Lower	*Implicit*	*Pre*	*60.10*	*61.5*	*14.70*	*43.7*	*100.0*
		Post	*72.04*	*73.8*	*3.77*	*87.5*	*100.0*
		Change	*11.94*	*12.3*	*12.81*	*0.0*	*50.0*
	Explicit	*Pre*	*58.08*	*61.15*	*7.89*	*68.7*	*100.0*
		Post	*70.09*	*77.4*	*3.27*	*93.7*	*100.0*
		Change	*12.02*	*16.3*	*8.66*	*0.0*	*31.3*
Higher	*Implicit*	*Pre*	*70.27*	*72.5*	*4.53*	*87.5*	*100.0*
		Post	*79.30*	*84.5*	*2.10*	*93.7*	*100.0*
		Change	*9.03*	*12.0*	*4.54*	*0.0*	*12.5*
	Explicit	*Pre*	*70.13*	*69.2*	*12.71*	*62.5*	*100.0*
		Post	*84.20*	*86.4*	*3.07*	*93.7*	*100.0*
		Change	*14.07*	*17.2*	*10.72*	*0.0*	*31.2*
Native (data unavailable)							

Table 18. Summary Statistics of UGJT Ungrammatical by Group for Pretest and Posttest

Proficiency	*Method*	*Time*	*Mean*	*Median*	*SD*	*Minimum*	*Maximum*
Lower	Implicit	Pre	51.19	61.4	29.12	6.3	100.0
		Post	65.03	70.7	10.83	56.2	100.0
		Change	13.84	9.3	20.89	0.0	75.0
	Explicit	Pre	48.92	52.5	26.29	0.0	100.0
		Post	70.22	70.5	14.44	56.2	100.0
		Change	21.3	18.0	16.95	0.0	56.2
Higher	Implicit	Pre	59.46	75.0	35.64	0.0	87.5
		Post	87.94	93.7	3.27	87.5	93.7
		Change	28.48	18.7	33.23	6.2	87.5
	Explicit	Pre	62.07	71.2	17.09	43.7	93.7
		Post	85.71	86.7	3.61	87.5	100.0
		Change	23.64	12.5	16.69	6.2	50.0
Native (data unavailable)							

Table 19. Summary Statistics of TGJT Grammatical by Group for Pretest and Posttest

Proficiency	*Method*	*Time*	*Mean*	*Median*	*SD*	*Minimum*	*Maximum*
Lower	Implicit	Pre	62.59	65.7	7.57	75.0	100.0
		Post	68.86	74.0	3.97	87.5	100.0
		Change	6.27	6.3	5.10	0.0	18.7
	Explicit	Pre	61.96	67.7	11.54	62.5	100.0
		Post	65.73	69.7	7.23	81.2	100.0
		Change	3.77	6.2	6.49	0.0	25.0
Higher	Implicit	Pre	71.48	72.5	8.85	75.0	100.0
		Post	80.11	79.7	4.18	87.5	100.0
		Change	8.63	6.3	6.06	0.0	18.7
	Explicit	Pre	73.13	80.5	19.24	50.0	100.0
		Post	86.41	90.0	7.11	81.2	100.0
		Change	13.28	6.3	15.18	0.0	37.5
Native (data unavailable)							

Table 20. Summary Statistics of TGJT Ungrammatical by Group for Pretest and Posttest

Proficiency	*Method*	*Time*	*Mean*	*Median*	*SD*	*Minimum*	*Maximum*
Lower	Implicit	Pre	55.45	65.6	31.85	0.0	93.7
		Post	78.50	84.4	17.38	43.7	100.0
		Change	23.05	15.6	20.86	0.0	75.0
	Explicit	Pre	65.37	62.5	21.74	25.0	87.5
		Post	82.19	86.5	10.15	62.5	93.7
		Change	16.82	12.5	17.93	0.0	50.0
Higher	Implicit	Pre	60.79	63.7	25.67	0.0	75.0
		Post	88.46	89.2	9.93	62.5	87.5
		Change	27.67	31.2	26.15	12.5	81.3
	Explicit	Pre	70.69	73.2	41.71	0.0	93.7
		Post	91.04	93.7	6.10	81.2	100.0
		Change	20.35	6.3	39.23	6.2	93.7
Native (data unavailable)							

Table 21. Summary Statistics of Second Language Achievement[31] (L2A) by Group for Pretest and Posttest

Proficiency	*Method*	*Time*	*Mean*	*Median*	*SD*	*Minimum*	*Maximum*
Lower	Implicit	Pre	47.17	50.0	6.53	41.6	66.6
		Post	64.01	63.8	7.06	55.5	77.7
		Change	16.84	13.9	4.98	5.5	25.0
	Explicit	Pre	46.77	47.2	6.32	27.7	52.7
		Post	60.84	63.8	7.03	50.0	72.2
		Change	14.07	13.9	5.51	5.5	22.3
Higher	Implicit	Pre	50.14	52.7	9.41	33.3	61.1
		Post	75.59	75.0	8.52	58.3	88.8
		Change	25.45	25.0	10.08	13.9	44.5
	Explicit	Pre	56.14	50.0	8.15	38.8	63.8
		Post	82.09	83.3	5.50	75.0	88.8
		Change	25.94	30.5	4.67	25.0	36.2
Native			98.88	100.0	1.45	97.2	100.0

[31] Taken from the untimed tests as L2A is an untimed measure

To address RQ1, Does type of instruction (implicit vs. explicit) have an effect of type of knowledge (implicit vs. explicit) as measured on a timed and untimed GJT? I wanted to determine how explicit and implicit teaching methods affect total scores on Untimed (U) and Timed (T) versions of a Spanish language grammaticality judgment test (GJT) on the target features. In order to be able to answer this question according to the collected data, ANCOVA was selected as the appropriate method to perform these analyses because it allows examination of the effect of method, proficiency, and both together (e.g., allows determination of whether the method made a difference for one level of proficiency but not the other). It also allows the examination of posttest scores specifically (those that would have been affected by the teaching method) while adjusting for pretest scores that are different across individuals.

4.2.1. Results for UGJT Ungrammatical (explicit)

The ANOVA table for the UGJT Ungrammatical measure is provided in Table 22. Note that even though the analysis is called ANCOVA, the table is still referred to as an ANOVA table. This table shows all the factors that were used in the ANCOVA. The method refers to the explicit or implicit learning method; the proficiency refers to the level of the student; the method * proficiency is the interaction of the method and proficiency, and would indicate that the method of learning made a difference for one of the proficiency groups but not the other if significant; and finally, the UGJT Grammatical pretest score is used as a covariate to adjust for pre-existing ability.

Table 22. ANOVA Table of Results for UGJT Ungrammatical ANCOVA

Source	***Mean Square***	***F***	***P-value***
Method	149.23	2.63	0.113
Proficiency	738.84	13.02	0.001
	17.02	0.30	0.587

Method * Proficiency			
	2155.88		0.000
UGJTUnPre		38.00	

UGJTUnPre: Untimed Grammaticality Judgment Test Ungrammatical Pretest

In Table 22, the Mean Square is a measure of how much variability in the posttest scores is explained by each of the factors in the model; the F statistic is a standardization of this measure of variability. The df or degrees of freedom is one for each factor and the covariate, and has to do with how many levels of each there are. Finally, the p-value is how one interprets the F statistic. The p-value for Method, for example, is 0.113. This means that over all students in the population of similar students, if the method does not make a difference in their posttest scores (explicit v. implicit), there is an 11.3% chance that there would be a difference in the two methods as large as the one in our sample. This is large compared to the significance level of 0.05 that is typically used, and so we have no evidence that there is a statistically significant effect of the method on the UGJT Ungrammatical posttest. However, there is a statistically significant effect of the students' proficiency levels on the UGJT Ungrammatical posttest ($p = 0.001$).

Because proficiency was statistically significant, Table 23 provides the adjusted average posttest scores for the two different proficiency groups. This is adjusted to show what the expected posttest score is for each group as if the pretest score for all students was 57.06 (the average across the data set). This makes sure that this is a reliable comparison across the two groups. The higher proficiency group scored higher on the posttest than the lower proficiency group, after accounting for pre-existing differences. In other words, the higher proficiency group made a significantly more positive change from pretest to posttest than did the lower proficiency group.

Table 23. Adjusted Average Posttest Scores for UGJT Ungrammatical

Proficiency	*Mean (evaluated at average pretest score = 57.06)*
Higher	73.17
Lower	64.61

4.2.2. Results for TGJT Ungrammatical (Explicit)

Table 24 provides results similar to those in the previous sections but for the TGJT Ungrammatical measure. Here, we note that there is a significant overall effect of proficiency at the 0.05 level of significance, but there is not a significant effect of method.

Table 24. ANOVA Table of Results for TGJT Ungrammatical ANCOVA

Source	*Mean Square*	*F*	*Df*	*P-Value*
Method	144.45	1.29	1	0.264
Proficiency	524.80	4.67	1	0.037
Method Proficiency*	73.22	0.65	1	0.424
TGJTUnPre	2283.79	20.32	1	0000

TGJTUnPre: Timed Grammaticality Judgment Test Ungrammatical Pretest

Table 25 provides the adjusted average posttest score for the two different proficiency groups. The higher proficiency group scored higher on the posttest than the lower proficiency group, after accounting for pre-existing differences. In other words, the higher proficiency group made a significantly more positive change from pretest to posttest than did the lower proficiency group.

Table 25. Adjusted Average Posttests Scores for TGJT Ungrammatical

Proficiency	*Mean (evaluated at average pretest score = 55.40)*
Higher	79.41
Lower	72.09

4.3. Research Question 2

In order to answer research question 2 (RQ2): Are there any differences between the two proficiency adolescent groups with regard to their implicit and explicit knowledge? It was determined how student proficiency (lower and higher) affects total scores on untimed (U) and timed (T) versions of a Spanish language grammaticality judgment test (GJT).

As in research question 1, ANCOVA (analysis of covariance) was selected as the adequate method to perform the analysis.

4.3.1. Results for L2A (explicit)

Table 26 provides results similar to those in the previous sections but for second language achievement. Here, we note that there is a significant overall effect of proficiency at the 0.05 level of significance, but there is not a significant effect of the method.

Table 26. ANOVA Table of Results for L2A ANCOVA

Source	*Mean Square*	*F*	*Df*	*P-Value*
Method	22.28	0.68	1	0.415
Proficiency	2595.29	78.98	1	0000
Method Proficiency*	67.21	2.05	1	0.160
L2APre	789.19	24.02	1	0000

L2APre: Language Achievement Test Pretest

Table 27 provides the adjusted average posttest score for the two different proficiency groups. The higher proficiency group scored higher on the posttest than the lower proficiency group, after adjusting for pre-existing differences. In other words, the higher proficiency group

made a significantly more positive change from pretest to posttest than did the lower proficiency group.

Table 27. Adjusted Average Posttest Scores for L2A

Proficiency	*Mean (evaluated at average pretest score = 48.73)*
Higher	78.58
Lower	62.59

4.3.2. Results for UGJT Grammatical (Implicit)

Table 28 provides results similar to those in the previous sections but for the UGJT Ungrammatical measure. Here, there are no statistically significant effects of either method of proficiency. No further analyses follow as nothing was significant.

Table 28. ANOVA Table of Results for UGJT Grammatical ANCOVA

Source	*Mean Square*	*F*	*Df*	*P-Value*
Method	1.23	0.14	1	0.708
Proficiency	13.94	1.61	1	0.211
Method Proficiency*	1.05	0.12	1	0.730
UGJTGrPre	88.17	10.20	1	0.003

UGJTGrPre: Untimed Grammaticality Judgment Test Grammatical Pretest

4.3.3. Results for TGJT Grammatical (Implicit)

Table 29 provides results similar to those in the previous section but for the TGJT Grammatical measure. Here, we note that there is a significant interaction of method and proficiency (despite no overall effect of method or proficiency based on the 0.05 level of significance).

Table 29. ANOVA Table of Results for TGJT Grammatical ANCOVA

Source	*Mean Square*	*F*	*Df*	*P-Value*
Method	3.65	0.27	1	0.605
Proficiency	46.24	3.44	1	0.071
Method Proficiency*	75.60	5.63	1	0.023
TGJTGrPre	768.92	57.22	1	<0.001

TGJTGrPre: Timed Grammaticality Judgment Test Grammatical Pretest

In order to determine the reason for the significance of the interaction, post-hoc pairwise comparisons are implemented. Table 30 provides the results of these comparisons. Groups with the same letter in the last column are not significantly different from one another at the 0.05 level of significance; groups that do not share a letter are significantly different from one another. We can see that the explicit learning group with higher proficiency has a significantly higher average posttest score (after adjusting to the average pretest score) than the explicit learning group with lower proficiency. In other words, within the explicit learning group, the higher proficiency group made a more positive change from pretest to posttest than the lower proficiency group. This is not the case for the implicit learning group.

Table 30. Post-hoc Pairwise Comparisons for TGJT Grammatical

Group	*Mean (evaluated at average pretest score = 61.89)*	*Comparison*
Higher Explicit	68.61	A
Lower Implicit	65.83	AB
Higher Implicit	65.27	AB
Lower Explicit	63.71	B

4.4. Research Question 3

In order to determine whether there is a relationship between second language achievement and pretest, posttest, and changes in total scores on the TGJT and UGJT, an analysis called Spearman's rho is used. Spearman's rho is a nonparametric correlation that result in a number between -1 and 1.32

If the Spearman's rho is close to 1, that implies a strong positive correlation (as one score increases across the students, the other increases).

If the Spearman's rho is close to -1, that implies a strong negative correlation (as one score increases across the students, the other decreases).

If the Spearman's rho is close to 0, that implies there is not a correlation between the two scores (if one score is increasing across the students, that is unrelated to how the other score changes across students).

Table 31 provides Spearman's rhos and p-values indicating statistical significance across language achievement and the ungrammatical (explicit) GJT scores. Note that in each case, the L2A score that is used is from the untimed pretest, as that represents second language achievement prior to the start of the experiment.

Table 31. Spearman's rho Results for Correlation of Second Language Achievement and Ungrammatical (explicit) GJT Score

Untimed/Timed	*Test*	*Spearman's rho*	*P-value*
Untimed	Pretest	0.458	0.002
Untimed	Posttest	0.285	0.058
Untimed	Change	-0.407	0.005
Timed	Pretest	0.220	0.146
Timed	Posttest	0.143	0.348

[32] A nonparametric correlation measure was appropriate as the more typical Pearson correlation requires a bivariate normal distribution—both L2A and GJT scores would need to be normally distributed.

Timed	Change	-0.188	0.215

Table 32 provides Spearman's rhos and p-values indicating statistical significance across language achievement and the grammatical (implicit) GJT scores. Again, in each case, the L2A score that is used is from the untimed pretest, as that represents second language achievement prior to the start of the experiment.

Table 32. Spearman's rho Results for Correlation of Second Language Achievement and Grammatical (implicit) GJT Score

Untimed/Timed	*Test*	*Spearman's rho*	*P-value*
Untimed	Pretest	0.116	0.447
Untimed	Posttest	-0.037	0.809
Untimed	Change	-0.111	0.467
Timed	Pretest	-0.102	0.506
Timed	Posttest	-0.071	0.642
Timed	Change	-0.020	0.895

From the above tables, second language achievement is significantly related to the UGJT ungrammatical measure at the 0.05 level of significance, and no other measures. The relationship with the pretest is significantly positive, meaning that as the second language achievement increased across the students, so did the UGJT ungrammatical score. The relationship with the posttest is not statistically significant, though it is borderline at a p-value of 0.058 (only slightly larger than 0.05) and is also positive. There is a significantly negative relationship of second language achievement with the change from pretest to posttest; however, this is not surprising, as those with higher L2A on the pretest also had higher pretest scores, and probably had less room to improve than those who did not have pretest scores that were as high to begin with.

4.5. Research Question 4

Table 33 provides Spearman's rhos and p-values indicating statistical significance across age and the ungrammatical (explicit) GJT scores.

Table 33. Spearman's rho Results for Correlation of Age and Ungrammatical (explicit) GJT Score

Untimed/Timed	*Test*	*Spearman's Rho*	*P-value*
Untimed	Pretest	0.085	0.579
Untimed	Posttest	0.112	0.465
Untimed	Change	0.016	0.916
Timed	Pretest	-0.091	0.552
Timed	Posttest	-0.035	0.817
Timed	Change	0.150	0.324

Table 34 provides Spearman's Rhos and p-values indicating statistical significance across age and the grammatical (implicit) GJT scores.

Table 34. Spearman's Rho Results for Correlation of Age and Grammatical (implicit) GJT Score

Untimed/Timed	*Test*	*Spearman's Rho*	*P-value*
Untimed	Pretest	0.261	0.083
Untimed	Posttest	0.065	0.671
Untimed	Change	-0.244	0.106
Timed	Pretest	0.170	0.264
Timed	Posttest	0.279	0.063
Timed	Change	0.049	0.748

From the above tables, age is not significantly related to scores or score changes for either the timed or untimed grammatical or ungrammatical GJT scores at the 0.05 level of significance.

4.6. Research Question 5

The students' average scores on the subsections of the TVJT, PSMT, and SPAT are provided in Tables 35-42.

Table 35. Summary Statistics of TVJT-Definite Plural Articles by Group for Pretest and Posttest

Proficiency	*Method*	*Time*	*Mean*	*Median*	*SD*	*Minimum*	*Maximum*
Lower	Implicit	Pre	17.2	2.5	14.0	0.0	50.0
		Post	19.1	2.5	24.0	0.0	100.0
		Change	2.0	0.0	29.6	-50.0	93.8
	Explicit	Pre	33.2	18.7	30.0	0.0	100.0
		Post	31.2	12.5	28.1	6.3	87.5
		Change	-1.9	0.0	20.9	-31.3	31.2
Higher	Implicit	Pre	33.3	31.2	27.9	0.0	81.2
		Post	16.7	12.5	18.7	0.0	56.2
		Change	-16.7	0.0	34.1	-75.0	18.7
	Explicit	Pre	9.8	6.3	9.4	0.0	25.0
		Post	25.0	8.7	19.1	0.0	56.2
		Change	15.2	2.5	19.4	-6.3	43.7
Native			88.7	00.0	29.1	6.3	100.0

Table 36. Summary Statistics of TVJT-Demonstrative Plurals by Group for Pretest and Posttest

Proficiency	*Method*	*Time*	*Mean*	*Median*	*SD*	*Minimum*	*Maximum*
Lower	Implicit	Pre	100.0	00.0	0.0	100.0	100.0
		Post	93.0	00.0	10.2	75.0	100.0
		Change	-7.0	.0	10.2	-25.0	0.0
	Explicit	Pre	98.1	00.0	6.9	75.0	100.0
		Post	96.2	00.0	7.9	75.0	100.0
		Change	-1.9	.0	8.6	-25.0	12.5
Higher	Implicit	Pre	93.1	00.0	12.7	62.5	100.0
		Post	94.4	00.0	6.6	87.5	100.0

		Change	1.4	.0	11.6	-12.5	25.0
	Explicit	Pre	100.0	00.0	0.0	100.0	100.0
		Post	96.4	00.0	6.1	87.5	100.0
		Change	-3.6	.0	6.1	-12.5	0.0
Native			100.0	00.0	0.0	100.0	100.0

Table 37. Summary Percentages of PSMT-Definite Articles by Group for Pretest and Posttest

Proficiency	*Method*	*Time*	*% Alienable*	*% Inalienable*	*% Both*
Lower	Implicit	Pre	72.3	9.0	18.7
		Post	89.7	3.6	6.7
		Change	17.4	-5.4	-12.0
	Explicit	Pre	92.3	4.4	3.3
		Post	91.8	4.4	3.8
		Change	-0.5	0.0	0.5
Higher	Implicit	Pre	70.6	10.3	19.0
		Post	88.9	5.5	5.6
		Change	18.3	-4.8	-13.4
	Explicit	Pre	92.8	4.1	3.1
		Post	45.9	0.0	54.1
		Change	-46.9	-4.1	51.0
Native			40.7	7.9	51.4

Table 38. Summary Percentages of PSMT-Possessives by Group for Pretest and Posttest

Proficiency	*Method*	*Time*	*% Alienable*	*% Inalienable*	*% Both*
Lower	Implicit	Pre	7.2	83.0	9.8
		Post	3.6	87.5	8.9
		Change	-3.6	4.5	-0.9
	Explicit	Pre	4.9	93.9	1.1
		Post	6.0	92.3	1.7
		Change	1.1	-1.6	0.6
Higher	Implicit	Pre	9.5	84.9	5.5
		Post	0.8	88.9	10.3
		Change	-8.7	4.0	4.8
	Explicit	Pre	7.1	89.8	3.0
		Post	1.0	62.2	36.7
		Change	-6.1	-27.5	33.7
Native			12.1	65.0	22.9

Table 39. Summary Statistics of SPAT-Definite Articles in Inalienable Possession Contexts by Group for Pretest and Posttest

Proficiency	*Method*	*Time*	*Mean*	*Median*	*SD*	*Minimum*	*Maximum*
Lower	Implicit	Pre	2.2	2.1	1.1	1.0	5.0
		Post	2.3	2.1	1.4	1.0	5.0
		Change	0.1	0.0	1.7	-4.0	2.7
	Explicit	Pre	2.2	2.2	1.2	1.0	4.5
		Post	2.2	1.7	1.3	0.8	4.2
		Change	-0.1	-0.2	1.4	-2.0	2.5
Higher	Implicit	Pre	2.3	1.6	1.4	1.0	4.5
		Post	1.9	1.7	1.1	1.0	4.2
		Change	-0.4	0.0	0.8	-2.2	0.6
	Explicit	Pre	1.9	2.1	0.8	1.0	3.0
		Post	2.9	3.5	1.7	1.0	4.8
		Change	1.0	0.5	1.9	-1.3	3.3
Native			3.8	3.7	0.4	3.0	4.7

Table 40. Summary Statistics of SPAT-Possessive Determiners in Inalienable Possession Contexts by Group for Pretest and Posttest

Proficiency	*Method*	*Time*	*Mean*	*Median*	*SD*	*Minimum*	*Maximum*
Lower	Implicit	Pre	4.9	5.0	0.3	3.7	5.0
		Post	4.4	5.0	1.0	1.3	5.0
		Change	-0.5	0.0	0.8	-2.3	0.0
	Explicit	Pre	4.9	5.0	0.2	4.5	5.0
		Post	4.8	5.0	0.3	4.1	5.0
		Change	-0.1	0.0	0.3	-0.9	0.5
Higher	Implicit	Pre	4.3	5.0	1.3	1.0	5.0
		Post	5.0	5.0	0.1	4.8	5.0
		Change	0.7	0.0	1.3	-0.2	4.0
	Explicit	Pre	4.8	5.0	0.3	4.3	5.0
		Post	4.7	5.0	0.4	4.3	5.0

		Change	-0.1	0.0	0.5	-0.7	0.7
Native			5	4.6	0.6	3.5	5.0

Tabe 41. Summary Statistics of SPAT-Definite Articles in Alienable Possessive Contexts by Group or Pretest and Posttest

Proficiency	*Method*	*Time*	*Mean*	*Median*	*SD*	*Minimum*	*Maximum*
Lower	Implicit	Pre	4.1	4.3	0.9	2.0	5.0
		Post	4.4	5.0	1.0	1.0	5.0
		Change	0.3	0.5	1.5	-4.0	3.0
	Explicit	Pre	4.7	5.0	0.5	3.3	5.0
		Post	4.8	5.0	0.6	3.0	5.0
		Change	0.0	0.0	0.6	-1.3	1.8
Higher	Implicit	Pre	4.1	5.0	1.5	1.0	5.0
		Post	4.3	5.0	1.3	1.0	5.0
		Change	0.2	0.0	1.5	-1.3	4.0
	Explicit	Pre	3.6	4.0	1.6	1.0	5.0
		Post	4.7	5.0	0.5	4.0	5.0
		Change	1.1	1.0	1.2	0.0	3.0
Native			4.8	5.0	0.5	3.5	5.0

Table 42. Summary Statistics of SPAT-Possessive Determiners in Alienable Contexts by Group for Pretest and Posttest

Proficiency	*Method*	*Time*	*Mean*	*Median*	*SD*	*Minimum*	*Maximum*
Lower	Implicit	Re	2.8	2.5	1.4	1.0	5.0
		Post	2.4	2.3	1.1	1.0	5.0
		Change	-0.4	-0.3	1.7	-2.8	4.0
	Explicit	Pre	2.4	2.5	1.4	1.0	5.0
		Post	2.4	2.3	1.3	1.0	5.0
		Change	0.0	0.0	0.9	-1.5	2.3
Higher	Implicit	Pre	2.4	2.3	0.9	1.0	4.0
		Post	2.6	2.0	1.6	1.0	5.0
		Change	0.2	0.0	1.1	-1.5	1.8
	Explicit	Pre	3.0	2.0	1.8	1.3	5.0
		Post	3.3	4.0	1.5	1.0	5.0
		Change	0.2	-0.3	2.1	-3.0	3.0
Native			2.9	3.0	1.4	1.0	5.0

Since Table 14 showed that these tests are not normally distributed, non-parametric tests to compare across the groups will be used. These tests cannot account for pretest scores while examining posttest scores, and so test results will be provided to compare pretest scores, posttest scores, and changes in scores individually across the groups.

4.6.1. TVJT Definite plurals

Initially, the two groups of student using different learning methods were compared regardless of proficiency level with respect to pretest, posttest, and change in scores from pretest to posttest. This comparison was done using a Mann-Whitney U test, a nonparametric test to compare the explicit and implicit groups to one another. Table 43 shows that the groups using

the two different methods did not score significantly different from one another on the pretest, posttest, or in their change in scores at the 0.05 level of significance. The teaching method used (explicit v. implicit) does not make a difference with respect to the TVJTDefP (Truth-Value Judgment Task Definite Plurals) scores.

Table 43. Results of Mann-Whitney U Tests Comparing Methods for TVJTDefP

Test	*U Statistic*	*P-value*
Pretest	251.0	0.981
Posttest	326.5	0.076
Change	298.0	0.268

Next, the two groups of student at different proficiency levels were compared, regardless of teaching method, with respect to pretest, posttest, and change in scores from pretest to posttest. This comparison was also done using a Mann-Whitney U test, a nonparametric test to compare the higher and lower efficiency groups to one another. Table 44 shows that the two different proficiency groups did not score significantly different from one another on the pretest, posttest, or in their change in scores at the 0.05 level of significance. The students' proficiency level, higher or lower, does not make a difference with respect to the TVJTDefP scores.

Table 44. Results of Mann-Whitney U Tests Comparing Proficiencies for TVJTDefP

Test	*U Statistic*	*P-value*
Pretest	348.5	0.638
Posttest	357.5	0.800
Change	252.0	0.632

Because a comparison of all four groups may find some more subtle differences (for example, differences in the teaching methods within the high or low proficiency group not present in the other group), nonparametric Kruskal-Wallis tests are used to compare the four groups to one another on the pretest, posttest and changes from pretest to posttest. Table 44

shows that there are no differences among the four groups with respect to the pretest, posttest, or change in scores at the 0.05 level of significance.

Table 45. Results of Kruskal-Wallis Tests Comparing Four Groups for TVJTDefP

Test	*Chi-Square*	*f*	*P-value*
Pretest	7.281		0.063
Posttest	3.291		0.349
Change	3.728		0.292

Finally, it is of interest to compare each of these four groups to the group of native speakers. Table 46 provides the results of 8 Mann-Whitney tests comparing the pretest scores and the posttest scores of each group to the single score of the native speakers. From Table 46, all of the four groups were significantly different from the native speaker group on the pretest and on the posttest at the 0.05 level of significance. None of the four groups of students scored similarly to the native speakers on the TVJTDefP scores at any time. Table 35 indicates that the students' scores were always lower than the native speakers.

Table 46. Results of Mann-Whitney Tests Comparing Four Groups to Native Group at Pretest and Posttest for TVJTDefP

Proficiency	*Method*	*Time*	*U Statistic*	*P-value*
Lower	Implicit	Pre	13.0	<0.001
		Post	18.0	0.001
	Explicit	Pre	18.0	0.003
		Post	12.0	0.001
Higher	Implicit	Pre	8.0	0.002
		Post	6.0	0.001
	Explicit	Pre	4.0	0.002
		Post	6.0	0.004

These analyses will be repeated for each of the remaining 11 measures in the following section, with less explanation.

4.6.2. TVJT Demonstrative Plural

Table 47 shows that the groups using the two different methods did not score significantly different from one another on the pretest, posttest, or in their change in scores at the 0.05 level of significance. The teaching method used (explicit v. implicit) does not make a difference with respect to the TVJTDemP (Truth-Value Judgment Task Demonstrative Plurals) scores.

Table 47. Results of Mann-Whitney U Tests Comparing Methods for TVJTDemP

Test	*U Statistic*	*P-value*
Pretest	267.0	0.431
Posttest	290.0	0.271
Change	274.0	0.512

Table 48 shows that the two different proficiency groups did not score significantly different from one another on the pretest, posttest, or in their change in scores at the 0.05 level of significance. The students' proficiency level, higher or lower, does not make a difference with respect to the TVJTDemP scores.

Table 48. Results of Mann-Whitney U Tests Comparing Proficiencies for TVJTDemP

Test	*U Statistic*	*P-value*
Pretest	197.0	0.093
Posttest	229.0	0.932
Change	261.5	0.402

Table 49 indicates there is at least one difference among the groups on the TVJTDemP pretest. Post-hoc pairwise comparisons indicate that there is a significant difference between the higher and lower proficiency students in the implicit group ($p = 0.035$), but no other differences. Reviewing Table 35 indicates that the higher proficiency group had a median score of 31.2, but

the lower proficiency group had a median score of 12.5. This difference did not carry to the posttest. Note that the teaching methods should not yet have taken place, so this is unrelated to the fact that these students were in the implicit group, and may be a sporadic result.

Table 49. Results of Kruskal-Wallis Tests Comparing Four Groups for TVJTDemP

Test	*Chi-Square*	*df*	*P-value*
Pretest	8.552	3	0.036
Posttest	1.224	3	0.747
Change	3.711	3	0.294

From Table 50, most of the four groups were not significantly different from native speakers at the 0.05 level of significance. The exceptions are (1) the lower proficiency implicit group was significantly different from native speakers on the posttest but not on the pretest, and (2) the higher proficiency implicit group was significantly different from native speakers on the posttest and "borderline" different on the pretest. Table 36 shows that in both cases these groups scored lower than the native speaker group.

Table 50. Results of Mann-Whitney Tests Comparing Four Groups to Native Group at Pretest and Posttest for TVJTDemP

Proficiency	*Method*	*Time*	*U Statistic*	*P-value*
Lower	Implicit	Pre	80.0	1.000
		Post	50.0	0.032
	Explicit	Pre	60.0	0.380
		Post	50.0	0.112
Higher	Implicit	Pre	30.0	0.054
		Post	25.0	0.021
	Explicit	Pre	35.0	1.000
		Post	25.0	0.081

4.6.3. PSMT Definite articles

Table 51 shows that the groups using the two different methods were significantly different on the pretest and with regard to their change in scores at the 0.05 level of significance, but not different on the posttest. Reviewing Table 4 indicates that the students using the implicit method were significantly more likely to classify a definite determiner as "both" alienable/inalienable than those using the explicit method. The pretest result is clearly unrelated to the actual method used, as the pretest was delivered prior to the teaching method. The difference in the change in scores is likely related to differences on the pretest that no longer existed after the teaching method, as the posttest scores are not significantly different.

Table 51. Results of Mann-Whitney U Tests Comparing Methods for PSMTDAB (Picture-Sentence Matching Task Definite Article Both)

Test	*U Statistic*	*P-value*
Pretest	157.5	0.015
Posttest	272.0	0.530
Change	342.5	0.022

Table 52 shows that the two different proficiency groups did not score significantly different from one another on the pretest, posttest, or in their change in scores at the 0.05 level of significance. The students' proficiency level, higher or lower, does not make a difference with respect to the PSMTDAB scores.

Table 52. Results of Mann-Whitney U Tests Comparing Proficiencies for PSMTDAB

Test	*U Statistic*	*P-value*
Pretest	230.5	0.967
Posttest	259.5	0.415
Change	272.5	0.297

Table 53 indicates there is at least one difference across the four groups with regard to the change in scores. However, after adjustment for multiple testing in the post-hoc pairwise comparisons, none of the groups is significantly different from any other group at the 0.05 level. This is not surprising since the p-value is so close to the significance level of 0.05. From Table 37, it is interesting to note that the higher proficiency explicit learning group increased their percent both alienable/inalienable much more than the other groups; again, however, this difference is not quite statistically significantly different from any other group at the 0.05 level of significance.

Table 53. Results of Kruskal-Wallis Tests Comparing Four Groups for PSMTDAB

Test	*Chi-Square*	*df*	*P-value*
Pretest	6.162	3	0.104
Posttest	7.524	3	0.057
Change	7.996	3	0.046

From Table 54, all the groups are significantly different from native speakers with respect to PSMTDAB at both pretest and posttest at the 0.05 level of significance, with the single exception of the higher proficiency explicit learning group at the posttest. Generally, the groups tended to label a definite determiner as “both” alienable and inalienable at a lower rate than the native group. This may indicate that for students with higher proficiency, the explicit teaching method can help them to resemble native speakers more in terms of their understanding of definite determiners.

Table 54. Results of Mann-Whitney Tests Comparing Four Groups to Native Group at Pretest and Posttest for PSMTDAB

Proficiency	*Method*	*Time*	*U Statistic*	*P-value*
Lower	Implicit	Pre	26.0	0.004
		Post	6.0	<0.001
	Explicit	Pre	3.5	<0.001
		Post	4.0	<0.001
Higher	Implicit	Pre	15.5	0.015
		Post	5.0	0.001
	Explicit	Pre	0.5	<0.001
		Post	33.5	0.887

4.6.3.1. Percent alienable

Table 55 shows that the groups using the two different methods were significantly different regarding their change in scores at the 0.05 level of significance, but not different on the pretest or posttest (though the pretest scores were borderline significantly different). Reviewing Table 37 indicates that the students using the implicit method were less likely to classify a determiner as alienable than those using the explicit method on the pretest, which is probably related to this group being significantly more likely to classify a determiner as both alienable/inalienable, as seen in the previous section. The significant difference in the change in scores is likely related to differences on the pretest that no longer existed after the teaching method, as the posttest scores are not significantly different.

Table 55. Results of Mann-Whitney U Tests Comparing Methods for PSMTDAA (Picture-Sentence Matching Task Definite Article Alienable)

Test	*U Statistic*	*P-value*
Pretest	329.0	0.056
Posttest	223.0	0.492
Change	153.0	0.022

Table 56 shows that the two different proficiency groups did not score significantly different from one another on the pretest, posttest, or in their change in scores at the 0.05 level of

significance. The students' proficiency level, higher or lower, does not make a difference with respect to the PSMTDAA scores.

Table 56. Results of Mann-Whitney U Tests Comparing Proficiencies for PSMTDAA

Test	*U Statistic*	*P-value*
Pretest	228.5	0.930
Posttest	184.0	0.205
Change	192.5	0.332

Table 57 shows that there are no additionally significant differences among the four groups with respect to the pretest, posttest, or change in scores at the 0.05 level of significance.

Table 57. Results of Kruskal-Wallis Tests Comparing Four Groups for PSMTDAA

Test	*Chi-Square*	*df*	*P-value*
Pretest	3.718	3	0.294
Posttest	3.567	3	0.312
Change	6.736	3	0.081

From Table 58, all the groups are significantly different from native speakers with respect to PSMTDAA at both pretest and posttest at the 0.05 level of significance, with one exception of the higher proficiency explicit learning group at the posttest, and one only borderline significant difference of the higher proficiency implicit learning group. Table 37 indicates that the majority of the groups are more likely to classify a definite determiner as alienable than the native speaker group. This again may indicate that for students with higher proficiency, the explicit teaching method can help them to resemble native speakers more in terms of their understanding of definite determiners.

Table 58. Results of Mann-Whitney Tests Comparing Four Groups to Native Group at Pretest and Posttest for PSMTDAA

Proficiency	*Method*	*Time*	*U Statistic*	*P-value*
Lower	Implicit	Pre	36.5	0.021
		Post	11.0	<0.001
	Explicit	Pre	6.0	<0.001
		Post	7.5	<0.001
Higher	Implicit	Pre	22.0	0.059
		Post	5.0	0.001
	Explicit	Pre	2.5	0.001
		Post	34.5	0.961

4.6.3.2. Percent inalienable

Table 59 shows that the groups using the two different methods did not score significantly different from one another on the pretest, posttest, or in their change in scores at the 0.05 level of significance. The teaching method used (explicit v. implicit) does not make a difference with respect to the PSMTDAI (Picture-Sentence Matching Task Definite Article Inalienable) scores.

Table 59. Results of Mann-Whitney U Tests Comparing Methods for PSMTDAI

Test	*U Statistic*	*P-value*
Pretest	237.0	0.728
Posttest	229.0	0.548
Change	263.0	0.747

Table 60 shows that the two different proficiency groups did not score significantly different from one another on the pretest, posttest, or in their change in scores at the 0.05 level of significance. The students' proficiency level, higher or lower, does not make a difference with respect to the PSMTDAI scores.

Table 60. Results of Mann-Whitney U Tests Comparing Proficiencies for PSMTDAI

Test	*U Statistic*	*P-value*
Pretest	239.0	0.846
Posttest	220.5	0.733

Change	208.0	0.536

Table 61 shows that there are no significant differences among the four groups with respect to the pretest, posttest, or change in scores at the 0.05 level of significance.

Table 61. Results of Kruskal-Wallis Tests Comparing Four Groups for PSMTDAI

Test	*Chi-Square*	*df*	*P-value*
Pretest	0.253	3	0.969
Posttest	4.377	3	0.224
Change	1.511	3	0.680

From Table 62, none of the groups are significantly different from native speakers with respect to PSMTDAI at either pretest and posttest at the 0.05 level of significance.

Table 62. Results of Mann-Whitney Tests Comparing Four Groups to Native Group at Pretest and Posttest for PSMTDAI

Proficiency	*Method*	*Time*	*U Statistic*	*P-value*
Lower	Implicit	Pre	75.5	0.786
		Post	66.5	0.384
	Explicit	Pre	57.5	0.584
		Post	59.0	0.671
Higher	Implicit	Pre	44.5	0.962
		Post	44.0	0.927
	Explicit	Pre	32.5	0.784
		Post	21.0	0.066

4.6.4. PSMT possessives

Table 63 shows that the groups using the two different methods did not score significantly different from one another on the pretest, posttest, or in their change in scores at the 0.05 level of significance. The teaching method used (explicit v. implicit) does not make a

difference with respect to the PSMTPB (Picture-Sentence Matching Task Possessive Both) scores.

Table 63. Results of Mann-Whitney U Tests Comparing Methods for PSMTPB

Test	*U Statistic*	*P-value*
Pretest	192.5	0.116
Posttest	253.0	0.933
Change	293.0	0.286

Table 64 shows that the two different proficiency groups did not score significantly different from one another on the pretest, posttest, or in their change in scores at the 0.05 level of significance. The students' proficiency level, higher or lower, does not make a difference with respect to the PSMTPB scores.

Table 64. Results of Mann-Whitney U Tests Comparing Proficiencies for PSMTPB

Test	*U Statistic*	*P-value*
Pretest	220.0	0.734
Posttest	266.0	0.325
Change	289.5	0.138

Table 65 indicates there is at least one difference across the four groups with regard to the posttest scores at the 0.05 level of significance. Post-hoc pairwise comparisons indicate the only significant difference among the groups on the posttest is that within the explicit group, the higher proficiency students were more likely to classify a possessive determiner as both alienable/inalienable after the teaching intervention than the lower proficiency students ($p = 0.016$). Reviewing Table 38 shows that the higher proficiency students under the explicit teaching method classified something as "both" 36.7% of the time—higher than the other groups.

Table 65. Results of Kruskal-Wallis Tests Comparing Four Groups for PSMTPB

Test	*Chi-Square*	*df*	*P-value*
Pretest	5.272	3	0.153
Posttest	10.866	3	0.012
Change	4.383	3	0.223

Table 66 indicates that two groups were not significantly different from native speakers at either the pretest or posttest at the 0.05 level of significance: the lower proficiency implicit group and the higher proficiency explicit group. The other two groups were significantly different from the native group except for the higher proficiency implicit group at the pretest, which was not far from being statistically significant at p = 0.063. Reviewing Table 38 indicates that these groups tended to be less likely to classify possessive determiners as both alienable and inalienable. Overall, these results seem unrelated to either the intervention or the students' proficiency.

Table 66. Results of Mann-Whitney Tests Comparing Four Groups to Native Group at Pretest and Posttest for PSMTPB

Proficiency	*Method*	*Time*	*U Statistic*	*P-value*
Lower	Implicit	Pre	62.0	0.322
		Post	54.5	0.152
	Explicit	Pre	25.5	0.005
		Post	25.0	0.003
Higher	Implicit	Pre	24.0	0.063
		Post	22.0	0.036
	Explicit	Pre	19.5	0.109
		Post	31.0	0.389

4.6.4.1. Percent alienable

Table 67 shows that the groups using the two different methods did not score significantly different from one another on the pretest, posttest, or in their change in scores at the

0.05 level of significance. The teaching method used (explicit v. implicit) does not make a difference with respect to the PSMTPA (Picture-Sentence Matching Task Possessive Alienable) scores.

Table 67. Results of Mann-Whitney U Tests Comparing Methods for PSMTPA

Test	*U Statistic*	*P-value*
Pretest	266.0	0.668
Posttest	272.0	0.504
Change	253.0	0.939

Table 68 shows that the two different proficiency groups did not score significantly different from one another on the pretest, posttest, or in their change in scores at the 0.05 level of significance. The students' proficiency level, higher or lower, does not make a difference with respect to the PSMTPA scores.

Table 68. Results of Mann-Whitney U Tests Comparing Proficiencies for PSMTPA

Test	*U Statistic*	*P-value*
Pretest	283.0	0.156
Posttest	184.0	0.130
Change	166.5	0.083

Table 69 shows that there are no significant differences among the four groups with respect to the pretest, posttest, or change in scores at the 0.05 level of significance.

Table 69. Results of Kruskal-Wallis Tests Comparing Four Groups for PSMTPA

Test	*Chi-Square*	*df*	*P-value*
Pretest	2.225	3	0.527
Posttest	2.818	3	0.421
Change	3.127	3	0.372

Table 70 indicates that none of the groups are significantly different from native speakers with respect to their classification on either the pretest or the posttest at the 0.05 level of significance.

Table 70. Results of Mann-Whitney Tests Comparing Four Groups to Native Group at Pretest and Posttest PSMTPA

Proficiency	*Method*	*Time*	*U Statistic*	*P-value*
Lower	Implicit	Pre	57.5	0.162
		Post	55.5	0.128
	Explicit	Pre	48.5	0.244
		Post	53.0	0.410
Higher	Implicit	Pre	40.5	0.691
		Post	25.5	0.053
	Explicit	Pre	31.5	0.718
		Post	20.5	0.097

4.6.4.2. Percent inalienable

Table 71 shows that the groups using the two different methods did not score significantly different from one another on the pretest, posttest, or in their change in scores at the 0.05 level of significance. The teaching method used (explicit v. implicit) does not make a difference with respect to the PSMTPI (Picture-Sentence Matching Task Possessive Inalienable) scores.

Table 71. Results of Mann-Whitney U Tests Comparing Methods for PSMTPI

Test	*U Statistic*	*P-value*
Pretest	281.0	0.441
Posttest	221.0	0.465
Change	205.0	0.278

Table 72 shows that the two different proficiency groups did not score significantly different from one another on the pretest, posttest, or in their change in scores at the 0.05 level of

significance. The students' proficiency level, higher or lower, does not make a difference with respect to the PSMTPI scores.

Table 72. Results of Mann-Whitney U Tests Comparing Proficiencies for PSMTPI

Test	*U Statistic*	*P-value*
Pretest	227.0	0.897
Posttest	218.0	0.714
Change	185.0	0.239

Table 73 shows that there are no significant differences among the four groups with respect to the pretest, posttest, or change in scores at the 0.05 level of significance.

Table 73. Results of Kruskal-Wallis Tests Comparing Four Groups for PSMTPI

Test	*Chi-Square*	*df*	*P-value*
Pretest	0.145	3	0.702
Posttest	5.580	3	0.134
Change	3.636	3	0.304

Table 74 shows that only one group, the higher proficiency implicit group, is significantly different from the native speaker group at the 0.05 level on the posttest; this is borderline statistically significant at $p = 0.042$.

Table 74. Results of Mann-Whitney Tests Comparing Four Groups to Native Group at Pretest and Posttest for PSMTPI

Proficiency	*Method*	*Time*	*U Statistic*	*P-value*
Lower	Implicit	Pre	63.5	0.363
		Post	56.5	0.195
	Explicit	Pre	38.0	0.075
		Post	36.5	0.060
Higher	Implicit	Pre	29.5	0.186
		Post	22.0	0.042
	Explicit	Pre	26.5	0.394
		Post	32.5	0.803

4.7. SPAT (Sentence-Picture Acceptability Task)

4.7.1. IDA (Inalienable Definite Article)

Table 75 shows that the groups using the two different methods did not score significantly different from one another on the pretest, posttest, or in their change in scores at the 0.05 level of significance. The teaching method used (explicit v. implicit) does not make a difference with respect to the SPATIDA (Sentence-Picture acceptability judgment task Inalienable Definite Articles scores).

Table 75. Results of Mann-Whitney U Tests Comparing Methods for SPATIDA

Test	*U Statistic*	*P-value*
Pretest	234.5	0.721
Posttest	265.0	0.728
Change	270.0	0.647

Table 76 shows that the two different proficiency groups did not score significantly different from one another on the pretest, posttest, or in their change in scores at the 0.05 level of significance. The students' proficiency level, higher or lower, does not make a difference with respect to the SPATIDA scores.

Table 76. Results of Mann-Whitney U Tests Comparing Proficiencies for SPATIDA

Test	*U Statistic*	*P-value*
Pretest	218.0	0.738
Posttest	240.0	0.848
Change	245.5	0.748

Table 77 shows that there are no significant differences among the four groups with respect to the pretest, posttest, or change in scores at the 0.05 level of significance.

Table 77. Results of Kruskal-Wallis Tests Comparing Four Groups for SPATIDA

Test	*Chi-Square*	*P*
	f	*-value*
Pretest	0.276	0.964
Posttest	1.470	0.689
Change	2.512	0.473

Table 78 indicates that all groups, on both the pretest and the posttest, are significantly different from native speakers at the 0.05 level of significance, with the single exception of the higher proficiency explicit learning group, which is not significantly different from the native speakers at the time of the posttest. Based on Table 39, the student groups are generally less likely to find the sentences acceptable in this context than the native speakers.

Table 78. Results of Mann-Whitney Tests Comparing Four Groups to Native Group at Pretest and Posttest for SPATIDA

Proficiency	*Method*	*Time*	*U Statistic*	*P-value*
Lower	Implicit	Pre	18.5	0.001
		Post	29.0	0.007
	Explicit	Pre	22.0	0.007
		Post	23.0	0.009
Higher	Implicit	Pre	18.5	0.029
		Post	10.0	0.004
	Explicit	Pre	0.5	0.001
		Post	29.0	0.555

4.7.2. IPD (Inalienable Possessive Determiners)

Table 79 shows that the groups using the two different methods did not score significantly different from one another on the pretest, posttest, or in their change in scores at the 0.05 level of significance. The teaching method used (explicit v. implicit) does not make a difference with respect to the SPATIPD (Sentence-Picture Acceptability Judgment Task Inalienable Possessive Determiners) scores.

Table 79. Results of Mann-Whitney U Tests Comparing Methods for SPATIPD

Test	*U Statistic*	*P-value*
Pretest	238.5	0.727
Posttest	245.5	0.900
Change	265.0	0.713

Table 80 shows that the two different proficiency groups did not score significantly different from one another on the pretest, or posttest at the 0.05 level of significance; however, the change in scores from pretest to posttest is statistically significant. Reviewing Table 7 shows an average positive change for the high proficiency group, but an average negative change for the low proficiency group. This difference in score changes is completely within the implicit group, however, which will be explored in Table 81.

Table 80. Results of Mann-Whitney U Tests Comparing Proficiencies for SPATIPD

Test	*U Statistic*	*P-value*
Pretest	175.0	0.073
Posttest	263.0	0.370
Change	318.0	0.028

Table 81 shows that there is at least one difference among the four groups with respect to changes in scores that is statistically significant at the 0.05 level of significance. Post-hoc pairwise comparisons show that, as suspected from Table 79 and Table 70, the only statistically significant difference is within the implicit group ($p = 0.024$), with higher proficiency students making generally positive change in acceptability scores and lower proficiency students making a generally negative change in acceptability scores.

Table 81. Results of Kruskal-Wallis Tests Comparing Four Groups for SPATIPD

Test	*Chi-Square*	*df*	*P-value*
Pretest	5.335	3	0.149
Posttest	3.398	3	0.334
Change	8.419	3	0.038

Table 82 shows that the groups are generally not significantly different from native speakers with respect to their scores at the 0.05 level of significance; the lower proficiency implicit learners are significantly different from native speakers on the pretest, but not on the posttest, while the higher proficiency implicit learners are borderline significantly different from native speakers on the posttest (p= 0.047). Table 40 indicates that in both cases, their acceptability scores were higher than the native speakers.

Table 82. Results of Mann-Whitney Tests Comparing Four Groups to Native Group at Pretest and Posttest for SPATIPD

Proficiency	*Method*	*Time*	*U Statistic*	*P -value*
Lower	Implicit	Pre	46.5	0.017
		Post	74.0	0.724
	Explicit	Pre	42.5	0.112
		Post	43.0	0.121
Higher	Implicit	Pre	37.5	0.506
		Post	25.0	0.047
	Explicit	Pre	22.5	0.171
		Post	25.0	0.288

4.7.3. ADA (Alienable Definite Article)

Table 83 shows that the groups using the two different methods did not score significantly different from one another on the pretest, posttest, or in their change in scores at the 0.05 level of significance. The teaching method used (explicit v. implicit) does not make a

difference with respect to the SPATADA (Sentence-Picture Acceptability Judgment Task Alienable Definite Articles) scores.

Table 83. Results of Mann-Whitney U Tests Comparing Methods for SPATADA

Test	*U Statistic*	*P-value*
Pretest	284.0	0.399
Posttest	298.5	0.195
Change	247.0	0.942

Table 84 shows that the two different proficiency groups did not score significantly different from one another on the pretest, posttest, or in their change in scores at the 0.05 level of significance. The students' proficiency level, higher or lower, does not make a difference with respect to the SPATADA scores.

Table 84. Results of Mann-Whitney U Tests Comparing Proficiencies for SPATADA

Test	*U Statistic*	*P-value*
Pretest	214.0	0.643
Posttest	225.5	0.857
Change	247.0	0.707

Table 85 shows that there are no significant differences among the four groups with respect to the pretest, posttest, or change in scores at the 0.05 level of significance.

Table 85. Results of Kruskal-Wallis Tests Comparing Four Groups for SPATADA

Test	*Chi-Square*	*df*	*P-value*
Pretest	4.727	3	0.193
Posttest	1.766	3	0.622
Change	6.738	3	0.081

Table 86 shows that the groups are generally not significantly different from native speakers with respect to their scores at the 0.05 level of significance; the single exception is that

lower proficiency implicit learners are significantly different from native speakers on the pretest, but not on the posttest. Table 41 indicates their acceptability scores were significantly lower than the native speakers.

Table 86. Results of Mann-Whitney Tests Comparing Four Groups to Native Group at Pretest and Posttest

Proficiency	*Method*	*Time*	*U Statistic*	*P-value*
Lower	Implicit	Pre	42.0	0.029
		Post	61.0	0.237
	Explicit	Pre	58.0	0.574
		Post	62.5	0.830
Higher	Implicit	Pre	37.0	0.399
		Post	34.5	0.298
	Explicit	Pre	19.0	0.068
		Post	32.0	0.694

4.7.4. APD (Alienable Possessive Determiners)

Table 87 shows that the groups using the two different methods did not score significantly different from one another on the pretest, posttest, or in their change in scores at the 0.05 level of significance. The teaching method used (explicit v. implicit) does not make a difference with respect to the SPATAPD (Sentence-Picture Acceptability Judgment Task Possessive Determiners) scores.

Table 87. Results of Mann-Whitney U Tests Comparing Methods for SPATAPD

Test	*U Statistic*	*P-value*
Pretest	242.0	0.811
Posttest	262.0	0.474
Change	263.5	0.452

Table 88 shows that the two different proficiency groups did not score significantly different from one another on the pretest, posttest, or in their change in scores at the 0.05 level of

significance. The students' proficiency level, higher or lower, does not make a difference with respect to the SPATAPD scores.

Table 88. Results of Mann-Whitney U Tests Comparing Proficiencies for SPATAPD

Test	*U Statistic*	*P-value*
Pretest	236.0	0.748
Posttest	266.5	0.704
Change	274.0	0.581

Table 89 shows that there are no significant differences among the four groups with respect to the pretest, posttest, or change in scores at the 0.05 level of significance.

Table 89. Results of Kruskal-Wallis Tests Comparing Four Groups for SPATAPD

Test	*Chi-Square*	*df*	*P-value*
Pretest	0.871	3	0.832
Posttest	1.406	3	0.704
Change	1.427	3	0.699

Table 90 shows that none of the groups are significantly different from native speakers with respect to their scores at the 0.05 level of significance on either the pretest or the posttest.

Table 90. Results of Mann-Whitney Tests Comparing Four Groups to Native Group at Pretest and Posttest

Proficiency	*Method*	*Time*	*U Statistic*	*P-value*
Lower	Implicit	Pre	78.5	0.936
		Post	62.0	0.337
	Explicit	Pre	51.5	0.395
		Post	53.0	0.453
Higher	Implicit	Pre	37.5	0.537
		Post	37.0	0.510
	Explicit	Pre	34.5	0.961
		Post	31.0	0.693

Chapter 5. DISCUSSION

5.1. Introduction

This study seeks to establish whether different types of instruction (explicit vs. implicit) result in different learning outcomes as measured by different types of assessment tests, with level of proficiency (higher and lower) as a moderator (RQ1 and RQ2).

Research question 3 (RQ3) addresses two issues: (1) the relationship between the measures of implicit and explicit knowledge (pretest scores), and the measure of L2 achievement (written test included as fillers in the UGJT) and (2) whether the implicit/explicit method of instruction affects the L2 achievement process of some target features.

Another important goal of this study is to establish whether the age of participants constitutes a decisive factor in their acquisition of L2 knowledge (RQ4).

Lastly, this research paper seeks to find out whether different types of instruction (explicit vs. implicit) have a significant effect on language transfer (RQ5).

The analyses in relation to the data obtained provided relevant findings considering the above research questions.

(1) The first finding refers to the construct validity of GJTs and the roles of time constraints and item grammaticality in impacting the knowledge representations used by learners to make their judgments. In order to investigate this issue, factor analyses were carried out on one measure of implicit knowledge and one measure of explicit knowledge. Based on the previous studies using the factor analysis (Bowles, 2011; R. Ellis, 2005a; R. Ellis & Loewen, 2007; Gutiérrez, 2012; Han & Ellis, 1998), we decided to examine the psychometric characteristics of the grammatical and ungrammatical sentences in the untimed GJT and timed GJT separately. This was confirmed by the data, where as depicted in Table 16, the grammatical

sections of the Timed and Untimed GJT loaded heavily on Factor 1 (more than .7) and the ungrammatical sections of the Timed and Untimed GJT, loaded heavily on Factor 2 (more than .7). According to this data, the ungrammatical portion of the GJT is measuring explicit knowledge and the grammatical portion of the GJT is measuring implicit knowledge. This finding has relevance with the way to measure both, implicit and explicit knowledge, becoming a plausible procedure to analyze separately the grammatical and ungrammatical sections in GJTs. The investigation of the construct validity of GJTs through a multiple factor-analytic study is recent. In this line of research, most studies have found that time pressure and not the item grammaticality was the decisive factor in L2 learners' performance (Bowles, 2011; R. Ellis, 2005a; R. Ellis & Loewen, 2007; Han & Ellis, 1998; Zhang, 2015). In contrast, Gutierrez, (2012, 2013) found in his factor analyses, grammaticality as the crucial variable, which led him to posit that grammatical items constitute a better measure of implicit knowledge, while ungrammatical items are a more reliable measure of explicit knowledge. This study according to the results shown, aligns with Gutierrez's findings.

5.2. Research Question 1

(2) In relation to the differences between the scores of the participants based on the different teaching method (research question 1), Tables 22, 24, 26, 28 and 29, show that there is not a statistically significant effect of the instructional methods on the different measures of knowledge. However, the same Table 29 shows a significant interaction of method and proficiency. In order to determine the cause of this interaction, some comparisons are implemented in Table 30, indicating that the explicit method of instruction produced statistically significant effects over the group with higher proficiency. These comparisons suggest that the implicit method is not significantly better for either, higher or lower proficiency group.

These results align with the findings in the literature. As Norris & Ortega (2000) stated, "On average, instruction that incorporates explicit (including deductive and inductive) techniques leads to more substantial effects than implicit instruction" (p.500). More recently, Goo, Granena, Yilmaz & Novella, (2015), corroborated this statement. At the same time, this study contributes to expand this line of research since specifically, it shows that the explicit method of instruction is especially more effective with intermediate leaners rather than with beginners.

5.3. Research Question 2

(3) Another finding of this study is related to research question 2, which seeks to investigate the differences between the two proficiency groups with respect to their implicit and explicit knowledge. Tables 22, 24, and 26 show that the learners' proficiency level is statistically significant. Tables 17, 18, 19, 20, and 21 show that the higher proficiency groups obtained higher scores than the lower proficiency group on all the measures of implicit and explicit knowledge. At the same time, the results from the Ancova analysis show that the higher proficiency group developed significantly more explicit knowledge of the ungrammatical target features than the lower proficiency group. In contrast, the dissimilarities between the two groups regarding implicit knowledge are less important, especially in the case of the measure with no time constraint (the grammatical section in the untimed GJT). Thus, when time pressure is not applied, the performance of the lower proficiency group regarding implicit knowledge is closer to that of the higher proficiency group. Therefore, all this may indicate that the higher proficiency students have greater ability to acquire L2 explicit knowledge than the lower proficiency students. Also, it seems that the proficiency level of the participants was not significant regarding L2 implicit knowledge, especially with no time constraints. Despite that,

the higher proficiency group performed better than the lower proficiency group on all measures of implicit and explicit knowledge. In the literature, this finding differs partly from previous studies (Gutiérrez, 2012; Gutiérrez, 2013). Gutierrez's (2012, 2013) results also showed that the higher proficiency group obtained better scores on all the measures of L2 knowledge. However, the more advanced participants developed significantly more implicit knowledge of the grammatical structures. A plausible explanation of this is the fact that in the present study two methods of instruction were used (implicit and explicit), while in Gutierrez's no instructional methods were considered in the study.

5.4. Research Question 3

Two new findings are derived from research question 3:

(4) The first one is regarding the relationship between the measures of implicit and explicit knowledge and the measure of L2 achievement. According to Tables 31, second language achievement is significantly related to ungrammatical sections of the untimed GJT (explicit knowledge) at the 0.05 level of significance and no other measures. It is important to stress that the written test used as a measure of L2 achievement was included in the UGJT, which represents a measure of explicit knowledge. Therefore, it was expected that the scores on this test would show significant correlations with the measure of explicit knowledge, and not with the measure of implicit knowledge. These results align with others in the related literature (Elder & Ellis, 2009; Gutiérrez, 2012; Roehr & Gánem-Gutiérrez, 2009) which also found a significant correlation between explicit knowledge and L2 proficiency as measured by the TOEFL test and a test of grammar and vocabulary knowledge respectively.

(5) The second finding related to research question 3 comes from the results obtained with regard to the relationship between the measure of L2 achievement and the posttest scores.

Tables 31 and 32 show that the relationship with the posttest is not statistically significant, though it is borderline at a p-value of 0.058 (only slightly larger than 0.05) and is also positive. There is a significantly negative relationship of second language achievement with the change from pretest to posttest; however, this is not surprising, as those with higher L2 achievement on the pretest also had higher pretest scores, and probably had less room to improve than those who did not have pretest scores that were as high to begin with. Because these students started out with higher scores on the pretest, students with higher initial second language achievement did not improve as much to the posttest under the two different teaching methods. There were no other significant relationships of second language achievement to any of the other GJT scores. This is an important finding since according to it, the use of a specific method of instruction (implicit vs. explicit) was not found significant in the development of L2 achievement measure. However, as stated above, both methods of instruction contributed positively to higher L2 achievement scores. This is an area that calls for further research since to my knowledge, there are no studies addressing this specific relationship.

5.5. Research Question 4

(6) The next finding of this research study is in relation to the age of the participants. The objective of research question 4 is to determine the relationship between student age and pretest, posttest, and changes in total scores on the TGJT and UGJT as measures of implicit and explicit knowledge respectively. As Tables 33 and 34 show, age is not significantly related to scores or score changes for either the timed or untimed GJT at the 0.05 level of significance. This may be because the participants involved are within a relatively small range of ages and are at the similar levels of proficiency (beginners and intermediates), and differences by age may not be extremely pronounced. It is difficult to compare these results to previous studies since, as we discussed

previously, adolescents constitute an under-reported learning community. Thus, most of the research papers on L2 learning are about children or adults. In the literature, we can cite several studies with adolescents (Nistov, 2001; Polat & Schallert, 2013; D. M. Singleton, 1999; Snow & Hoefnagel-Höhle, 1978; Swain & Lapkin, 1998). However, no comparison among different adolescent ages were conducted, which leaves the research community with an ample area for future research. This is a step in that direction.

5.6. Research Question 5

Several findings were obtained in relation to research question 5, which seeks to establish whether type of instruction has a significant effect on language transfer in the interpretation of Spanish determiners. In this process, it was assumed that the L1 (English) was the stronger language while the L2 (Spanish) the weaker language. This assumption was based on the relative dominance of these two languages (Montrul & Ionin, 2012). The findings are summarized in parts following the structure of this research study:

(7) TVJT Definite Plural: Tables 43, 44, 45, and 46 show that there were no significant differences among any of the groups, due to method, proficiency, or some combination, on either the pretest, the posttest, or the changes in scores from the pretest to the posttest. All groups were significantly different from native speakers with respect to their responses on both the pretest and the posttest, always scoring lower. The presence of transfer effects from English aligns with the results obtained in the previous research (Montrul & Ionin, 2012). Methods of instruction did not influence significantly the transfer effects.

(8) TVJT Demonstrative Plural: Table 47, 48, and 49, show that there were no overall significant differences among any of the groups due to method of proficiency on either the pretest or the posttest. However, Table 50 shows that there was found to be a significant

difference between the higher and lower proficiency students in the implicit group on the pretest that did not extend to the explicit group. Clearly this is unrelated to the method and it was most likely a sporadic result that this difference, due to proficiency, was only found in one group. Pretest scores were generally not significantly different from native speakers, except for the lower and higher proficiency implicit groups on the posttest. Note that the native speakers scored 100% correctly on all of these questions, meaning even very high average scores for non-native speakers, (90-100% range) were found to be significantly different from the native speakers.

(9) PSMT Definite Articles: significant differences were found based on teaching method, not on the posttest but on the pretest (Table 51), indicating that the pretest groups were not equivalent with respect to their existing abilities. These differences disappeared by the time of the posttest (Table 51, 55, and 59), however. All groups were different from the distribution of alienable/inalienable/both (Table 52, 53, and 54) displayed by the native speakers (especially with respect to categorizations of alienable and both, since inalienable was a rare category for any individual to choose), with the exception of the higher proficiency group using the explicit method on the posttest (Table 54, 58, and 62). The higher proficiency group's distribution of categorizations did resemble the native speakers' distribution in all three categories. Other groups tended to classify definite determiners as both alienable and inalienable less frequently than native speakers, and as alienable only more frequently than native speakers. This may be evidence that the explicit method is an effective method of teaching for higher proficiency students in this area.

(10) PSMT Possessives: Table 64, 68, 72, and 76 show that there were no pretest differences among the groups here. On the posttest, Table 65, 69, and 73 show that the higher proficiency students in the explicit learning group were more likely to classify a possessive

determiner as both alienable and inalienable, relative to the lower proficiency students in this same group. This was the only difference among the student groups. Overall, all groups tended to resemble the native speakers with respect to percent inalienable (Table 72) and alienable (Table 68) classifications, but some groups were significantly less likely to classify a possessive determiner as both alienable and inalienable than the native speakers (lower proficiency explicit and lower proficiency implicit). However, these differences generally existed at both pretest and posttest and appear unrelated to the learning method or proficiency.

(11) SPAT Inalienable Definite Articles: there were no significant differences among any of the groups, due to method (Table 75), proficiency (Table 76), or some combination, on either the pretest, the posttest, or the changes in scores from the pretest to the posttest (Table 77). All groups were significantly different from native speakers (Table 78) with respect to their responses on both the pretest and the posttest, and were less likely to judge a sentence with a definite article in an inalienable possession context to be acceptable than the native speakers, with the single exception of the higher proficiency explicit learning group.

(12) SPAT Inalienable Possessive Determiners: Table 81 shows that the only significant difference among the groups was that within the implicit group; the higher proficiency students increased their acceptability scores and the lower proficiency groups decreased their acceptability scores after the teaching period, and this made the changes from pretest to posttest significantly different for these two groups. This did not result in or from any significant differences in acceptability judgments on either the pretest or posttest across these groups. Table 81 shows that the student groups were generally not significantly different from the native speakers with respect to acceptability; the lower proficiency implicit learners are significantly different from native speakers on the pretest, but not on the posttest, while the higher proficiency

implicit learners are borderline significantly different from native speakers on the posttest (Table 81). In both cases, their acceptability scores were higher than the natives.

(13) SPAT Alienable Definite Articles: there were no significant differences among any of the groups, due to method (Table 82), proficiency (Table 83), or some combination, on either the pretest, the posttest, or the changes in scores from the pretest to the posttest (Table 84). Most groups were not significantly different from native speakers with respect to their responses on both the pretest and the posttest; the exception was that lower proficiency implicit learners had significantly lower acceptability scores on the pretest (Table 85).

(14) SPAT Alienable Possessive Determiners: there were no significant differences among any of the groups, due to method (Table 87), proficiency (Table 88), or some combination, on either the pretest, the posttest, or the changes in scores from the pretest to the posttest (Table 89). Table 90 shows that no groups were significantly different from native speakers with respect to their responses on either the pretest or the posttest.

Overall, there may be evidence in some of these areas that the explicit teaching method can help the higher proficiency group to more resemble native speakers in the attainment of the Spanish determiners system, though direct evidence that the explicit method is superior to the implicit method in any area is lacking. Further research would be desirable to keep exploring this uncharted territory of instructed SLA and language transfer.

5.7. Pedagogical Implications for the Classroom

It is important to mention some implications of this study to the teaching community:

(1) It was found in this study that the explicit method of instruction is more effective than the implicit method. Also, it was found that this effectiveness is greater in relation to higher proficiency learners, which suggests that lower proficiency groups, should not receive extensive

amounts of explicit instruction in the initial stages of language acquisition as some researchers have suggested (N. C. Ellis, 2005; R. Ellis, 2002; P. Lightbown, 1991; Marcos Marín, 2012).

(2) The fact that higher proficiency learners may have a greater ability to acquire linguistic representations and specifically more explicit knowledge, has also implications in the classroom. It seems that in the presence of this type of learners (intermediates and above), it would be recommendable to use explicit instruction. Most SLA researchers (R. Ellis, 2006; Goo et al., 2015; Li, 2010; J. M. Norris & Ortega, 2000; Spada & Tomita, 2010) accept that this type of knowledge is effective in promoting L2 learning. This study shows that it is especially effective with higher proficiency learners.

(3) In concordance with the results and findings shown, a written task with no time constraints may develop a learner's explicit knowledge. This is important for L2 instructors in the classroom since, if we agree that explicit knowledge facilitates the attainment of implicit knowledge, these types of written activities can be very useful for that purpose.

(4) Since it was found in this research paper that both methods of instruction, implicit and explicit, were statistically positive in the development of L2 achievement levels, it seems recommendable to use both types of instruction in the classroom (R. Ellis, 2015; Goo et al., 2015; J. M. Norris & Ortega, 2000; Robinson, 1996). This may help students learn not only the specific L2 knowledge instructed, but also consolidate a more extensive knowledge of the L2 in its totality.

(5) The explicit method of instruction seems to help reduce the transfer effects from English in the learning process of Spanish determiners especially for intermediate students (Spanish 3). This is important for the teaching community because according to this finding, language teachers can expect more morpho-syntactic resemblance between the two languages

(L1/L2) from those students with a higher proficiency (intermediates) who were taught explicitly.

5.8. Limitations

The results and findings discussed above represent an effort to contribute to SLA theory, assessment and practice. However, it is vital to refer to several limitations that this research study presents. These limitations are the following:

(1) The amount of time (three seconds for sentence processing, and an additional three seconds for writing the response) participants were allowed to spend during the timed GJT. Although we followed previous research in which sentences were displayed for 3 or 3.5 seconds (Bialystok, 1979; Han, 2000) or up to 6 seconds (Loewen, 2009), if implicit knowledge is premised to be fast, unverbalizable, and with a low cognitive effort, perhaps a more appropriate time to respond would have been around 1-2 seconds.

(2) Another limitation is the fact that we used just one measure for each type of L2 knowledge. Probably the study could have benefited from an additional measure of implicit and explicit knowledge. For instance, the use of an elicited oral imitation test (Erlam, 2006) as a measure of implicit knowledge and a metalinguistic knowledge test (R. Ellis, 2005a) as a measure of explicit knowledge in conjunction with the measures already in use, would have helped to obtain more data to assess the nature of each type of linguistic knowledge.

(3) Even though the instructional methods used in this study followed previous research (Scott, 1989; Scott, 1990), more time treating the implicit instruction method would have been advisable.

(4) The duration of the research (3 months) constitutes a limitation if we compare it with other descriptive-quantitative longitudinal research which can last from more than 6 months to

several years (Dornyei, 2005; Mackey & Gass, 2015; Ortega & Iberri-Shea, 2005). A longer period of time and more assessment waves would have given the study more data to evaluate. However, it was necessary to design a research study under time constraints to complete the literature review, apply the methodology, and collect and interpret the data.

(5) The use of a target population (high schoolers) within a relatively similar range of ages (between 14 and 18 years old) and proficiency (beginners and intermediates) might have resulted in differences that are not extremely pronounced. However, the data obtained is really important considering the lack of studies covering the targeted participants in this study.

(6) The lack of prior research studies on some segments of this study limits the possibility to compare and contrast the results obtained to prior research studies. Two specific areas of this study lack substantial research, namely, the relationship between methods of instruction and L2 achievement and between methods of instruction and transfer effects L1 English-L2 Spanish.

These limitations are the result of a critical thinking process about the research questions, the understanding of the relevant literature, and the assessment of the methods used to study those questions.

5.9. Directions for Future Research

According to the findings and limitations described above, the following directions are considered for future research:

(1) As R. Ellis et al., (2009) states: "there is an obvious need for tests than can provide relatively separate measures of implicit and explicit L2 knowledge. This need is evident both in the field of SLA and in language testing,"(p. 62). This study is a step in this direction adding principal component factor analysis and confirmatory factor analyses to the measurement of L2 knowledge.

(2) The relationship between methods of instruction and L2 achievement. Instructed SLA theory (C. J. Doughty, 2008; R. Ellis, 1994b) could benefit from the study of the influence of the instructional methods on the global knowledge of the L2, beyond the learning of specific target features.

(3) The adolescent population is clearly underreported in SLA. There is a lack of studies investigating adolescent learners with and without level of proficiency as a moderator. Also, comparing adolescent participants among themselves is uncharted research territory that could expand the knowledge conclusions about the relationship between age and SLA.

(4) The relationship between method of instruction and effects on language transfer is a line of research that needs further study. It would be desirable to expand it with different target populations (children and adults), adding moderators (proficiency level, age, etc.) and different target languages. By doing so, several comparisons would be possible and new conclusions would shed more light onto this fascinating topic.

Chapter 6. CONCLUSION

6.1. Introduction

This study reveals some details related to the learning process developed by forty-five L2 learners of Spanish in a secondary school in the United States. The participants performed at two levels of proficiency: higher (intermediates) and lower (beginners). This study also investigated whether different methods of instruction make an impact on language transfer L1 English-L2 Spanish. The conclusions regarding the findings obtained in this research paper can be placed into one of these three categories: conclusions regarding findings that align or contradict previous research; conclusions regarding findings that expand previous lines of research, and conclusions regarding findings that cover gaps in the research.

6.2. Conclusions Regarding Findings that Align or Contradict Previous Research

(1) In order to know and understand the L2 learning[33] process, it is vital to find reliable measures and ways to operationalize L2 knowledge. Following the previous research on this topic (Bowles, 2011; R. Ellis, 2005a; R. Ellis & Loewen, 2007; Gutiérrez, 2012; Gutiérrez, 2013), the construct validity of GJTs was investigated through a multiple factor-analyses process. An important finding was obtained which posits that item grammaticality is the decisive factor to define the type of L2 knowledge acquired, and not time pressure. Thus, it was found (R. Ellis, 2005a; Gutiérrez, 2012; Gutiérrez, 2013) that the ungrammatical sections of the Timed and Untimed GJT, measure explicit knowledge, and the grammatical sections of the GJT are measuring implicit knowledge, "particularly in the case of the untimed GJT," (R. Ellis, 2005a, p. 167). At the same time, several other studies have found that time pressure is the crucial factor to determine whether L2 knowledge is explicit or implicit (Bowles, 2011; Han & Ellis, 1998; Serafini, 2013; Zhang, 2015). Following time pressure as a factor to identify the

[33] Please see distinction acquisition vs. learning (Leow, 2015)

specific L2 knowledge obtained, it is believed that the operationalization of GJTs under time pressure produces measures of implicit knowledge, while if time pressure is not applied, explicit knowledge is the outcome. In this study, factor analyses were carried out on one measure of implicit knowledge (TGJT) and one measure of explicit knowledge (UGJT). The results in this paper align with those presented by Gutiérrez (2012, 2013) and R. Ellis (2005a).

As we mentioned earlier, several researchers (Shiu & Spada, 2012; Suzuki & DeKeyser, 2015) conducted recent investigations whose results on measures of L2 knowledge seem to indicate that measures of implicit knowledge may be tapping highly automatized knowledge, (i.e. automatized explicit knowledge). Vafaee et al., (2016) even suggested that the manipulation of time conditions and/or grammaticality of the sentences doesn't render different measures of implicit and explicit knowledge.

Due to the importance of implementing reliable measures of L2 knowledge and the present controversy about them, there is a need for validation studies with different approaches (i.e. factor-analytic; automatized L2 knowledge), levels of proficiency, participants' age and formal settings. With constant and consistent effort, the follow-on studies will let researchers compare and contrast the additional results to obtain more and perhaps definite conclusions.

(2) As expected, this paper shows that the explicit method of instruction is more effective than the implicit method. These results align with other findings in the literature investigating the relationship between methods of instruction and L2 knowledge (Goo et al., 2015; J. M. Norris & Ortega, 2000). This study also presents level of proficiency as a moderator in this relationship. The findings obtained regarding the use of this moderator show that the effectiveness of the explicit method of instruction is greater with participants of higher level of proficiency (intermediates). This is important since, as it was explained in the discussion section, the explicit

method is more effective with intermediate learners rather than with beginners which may question the need of any explicit instruction at those very basic levels of L2 learning as it has already been suggested (R. Ellis, 2006; Marcos Marín, 2012).

(3) This study also reports important results regarding the relationship between level of proficiency and L2 knowledge development. It was expected that the higher proficiency group would develop significantly more L2 knowledge than the lower group (Gutiérrez, 2012). This study shows that the more advanced participants developed more explicit knowledge of the ungrammatical target features than the lower proficiency group. This contradicts the finding in Gutiérrez (2012), who found that the higher proficiency group developed significantly more implicit knowledge of the grammatical structures. A feasible explanation of this may be the fact that in the present study two methods of instruction were used (implicit and explicit), while in Gutiérrez's there are not references of instructional methods. The results of this paper also show that the influence of level of proficiency on L2 knowledge development are less pronounced regarding implicit knowledge, especially when there is no time constraint (the grammatical section of the untimed GJT). This implies that level of proficiency is not a decisive factor in the development of L2 implicit knowledge or incidental acquisition as R. Ellis (2015) explains: "classroom learners manifest similar acquisitional tendencies to naturalistic learners when their communicative speech is examined", (p. 91). This is an important finding since it seems that the implicit knowledge development doesn't need a specific level of proficiency to be greatly developed.

(4) According to the results in this study, the ungrammatical sections of the untimed GJT correlate with L2 achievement measure, which it was included in the untimed GJT as fillers, considering five of the target structures used by Bowles (2011). This correlation aligns with the

results obtained in the applicable literature (Elder & Ellis, 2009; Roehr & Gánem-Gutiérrez, 2009) and show how different written tasks under no time constrain (i.e., TOEFL test, test of grammar and vocabulary knowledge) represent measures of L2 explicit knowledge.

6.3. Conclusions Regarding Findings that Expand Previous Lines of Research

(5) These conclusions are related to the second finding regarding research question 3 (RQ3) and represent a development of that line of research. The findings obtained show that instructional methods were not statistically significant on the overall L2 Spanish knowledge, but contributed positively on that knowledge. This is an expected finding since it is logical that the improvement on specific L2 target features is going to facilitate the integral knowledge of the same language. As discussed earlier, further research considering the relationship between awareness/unawareness in L2 learning and different measures of L2 achievement, levels of proficiency, time of exposure, types of interaction (learners vs. natives) and learning conditions (e.g. classroom, online, immersion) would be very beneficial.

(6) To study the relationship between instructional methods and transfer L1 English-L2 Spanish, Montrul's (2012) study was taken as a reference. The same tasks conducted in Montrul's study were carried out in this investigation (TVJT, PSMT, SPAT). However, in this study, these tasks investigated whether the use of two different instructional methods had any impact on language transfer. It was found that the explicit teaching method applied to the higher proficiency group (intermediates) helped participants reduce the transfer effects from English and resemble more Spanish native speakers in two specific areas: in the use of definite articles in inalienable and alienable contexts; and the use of possessives in inalienable and alienable contexts. These results align with another study (Spada & Lightbown, 1999) that investigated the effects of an instructional method (explicit) on transfer L1 French-L2 English. As Odlin (2003)

explains regarding Spada & Lightbown's study: "making learners aware of cross-linguistic differences will help with certain difficulties in the target language," (p. 478). The influences on language transfer come from different factors: linguistic, psycholinguistic, psychological and social. Given the scarcity of studies regarding the effects of instructional methods on language transfer, it is essential to call for further research, considering the above-mentioned factors with different moderators, target structures and population, and settings. This study joins in that effort.

6.4. Conclusions Regarding Findings that Cover Gaps in the Research

(7) This study shows that the age of participants, ranging from 14 to 18 years old, did not produce significant effects on the L2 learning process of Spanish determiners. A likely cause of this may be the presence of similar levels of proficiency and ages. Controversy surrounds the existence of a critical period for language learning, (from 5 to puberty), after which language learning is much more difficult (Birdsong, 1999; Birdsong, 2006; Coppieters, 1987; Granena & Long, 2013; Lardiere, 2007; D. Singleton, 2001). According to that, and considering the onset of puberty (on average for girls between 10 and 14, and boys between 12 and 16), the study of the L2 acquisition by adolescents is vital regarding ultimate attainment, rate of acquisition, and the route of acquisition. This contrasts with the lack of studies about adolescent L2 learners. This study represents a further step in that direction, stressing the importance of comparing and contrasting the different ages within the fundamental period that adolescence constitutes.

It is important to note the formal setting where these results were obtained, a secondary school. High school students are usually under-represented in scholarly journals in favor of college students. This study seeks to help fill this gap.

Lastly, there is a common agreement in the literature (R. Ellis, 2009; R. Ellis, 2015; Goo et al., 2015; J. M. Norris & Ortega, 2000) in terms of advocating for more research regarding

implicit and explicit knowledge, methods of instruction, and the relationship among all of them, along with reliable measures of L2 knowledge. This study represents another step in this direction.

6.5. Conclusiones en Español

Introducción

El presente estudio informa de varios aspectos relativos al procedimiento de aprendizaje de cuarenta y cinco estudiantes de español como segunda lengua en un centro de educación secundaria de los Estados Unidos. Los participantes en esta investigación fueron divididos en dos grupos de acuerdo a su nivel de competencia: un grupo de principiantes y otro grupo de nivel intermedio. Este trabajo se centra en la investigación de la influencia de los métodos de instrucción sobre dos aspectos concretos: (1) la adquisición de normas básicas del sistema de determinantes de la lengua española; (2) la transferencia entre la primera y la segunda lengua.

Las conclusiones están basadas en los descubrimientos obtenidos después de haber analizado los resultados de las pruebas realizadas. Estas conclusiones han sido divididas en tres categorías diferentes:

Conclusiones relativas a descubrimientos que concuerdan o contradicen previas investigaciones.

(1) Para comprender el proceso de aprendizaje de una segunda lengua, es vital encontrar medidas fiables de conocimiento de una segunda lengua, así como instrumentos adecuados para poner dichas medidas en práctica. Siguiendo previos métodos de investigación (Bowles, 2011; R. Ellis, 2005a; R. Ellis & Loewen, 2007; Gutiérrez, 2012; Gutiérrez, 2013), la validez de los juicios de gramaticalidad fue investigada a través de un proceso de análisis de factores múltiples. Durante ese análisis, descubrimos que la gramaticalidad de las sentencias es el factor decisivo a

la hora de definir el tipo de conocimiento de una segunda lengua, y no la realización de esos juicios con un control de tiempo. Así, se halló que las frases no gramaticales utilizadas tanto en los juicios con o sin límite de tiempo, suponen una medida de conocimiento explícito, mientras que las frases gramaticales en ambos tipos de juicios (con medidas de tiempo y sin ellas) son una medida de conocimiento implícito. Este descubrimiento concuerda con otros anteriores (R. Ellis, 2005a; Gutiérrez, 2012; Gutiérrez, 2013). Otros estudios (Bowles, 2011; Han & Ellis, 1998; Serafini, 2013; Zhang, 2015) sin embargo, han afirmado que el elemento diferenciador del tipo de conocimiento de una segunda lengua es la presencia de tiempo en esos juicios de gramaticalidad. Investigaciones recientes (Shiu & Spada, 2012; Suzuki & DeKeyser, 2015; Vafaee et al., 2016) parecen poner en duda la validez de cualquiera de estas medidas, citando como un posible método de medir el conocimiento implícito, a través de la teoría de la automatización del conocimiento.

Debido a la importancia de encontrar modos fiables de medida del conocimiento de una segunda lengua y también a la presente falta de acuerdo en la doctrina, es imperiosa la necesidad de seguir investigando este problema desde todos los puntos de vista posibles para poder obtener conclusiones más definitivas.

(2) Al igual que en previos trabajos de investigación (Goo et al., 2015; J. M. Norris & Ortega, 2000), se descubrió en nuestro estudio que el método de instrucción explícito es más efectivo que el método implícito. El uso del nivel de competencia como moderador en la presente investigación, nos permitió averiguar que el método de instrucción explícito es más efectivo si cabe con estudiantes de un nivel mayor de competencia (a partir del nivel intermedio). Ello puede tener importantes repercusiones a nivel pedagógico, quedando en entredicho la necesidad de instrucción explícita en los niveles más básicos de competencia.

(3) El estudio de la relación entre el nivel de competencia de una segunda lengua y el desarrollo del conocimiento de esa misma lengua durante un período de tiempo concreto (un trimestre) nos ha permitido llegar a importantes conclusiones al respecto. Coincidiendo con previos trabajos de investigación (Gutiérrez, 2012), los resultados muestran que un grupo de mayor capacidad académica, puede desarrollar una mayor cantidad de conocimiento de una segunda lengua. Específicamente, nuestra investigación indica que los estudiantes más avanzados desarrollaron más conocimiento explícito en las frases no gramaticales que el grupo de un nivel académico más bajo (principiantes). Esto se contradice en parte con los resultados del trabajo de Gutiérrez (2012), puesto que, en su investigación, los participantes de una mayor competencia efectivamente desarrollaron más conocimiento de la segunda lengua, pero del tipo implícito. Una explicación a esta divergencia podría estar en el hecho de que en nuestro estudio se tienen en cuanta dos variables (método de instrucción implícito y explícito) que no son utilizadas en el caso de Gutiérrez (2012). Los resultados de esta investigación muestran al mismo tiempo que la influencia del nivel de competencia sobre el desarrollo de conocimiento de una segunda lengua es menos pronunciado en relación al conocimiento implícito, especialmente cuando no hay límite de tiempo (como en las secciones gramaticales de los juicios de gramaticalidad sin límite de tiempo). Ello implica que el nivel de competencia de los estudiantes no es un factor decisivo en el desarrollo del conocimiento implícito, lo cual es importante, ya que parece que el desarrollo de este tipo de conocimiento, puede iniciarse desde el principio del aprendizaje de una segunda lengua.

(4) De acuerdo a los resultados obtenidos, las frases no gramaticales del juicio de gramaticalidad sin límite de tiempo, se relacionan con la medida de logro, la cual estaba incluida en dicho juicio de gramaticalidad como un contenido diferenciador del de las estructuras objeto

de estudio. Esta medida de logro incluía cinco de las estructuras gramaticales usadas por Bowles (2011). La presencia de esta relación, concuerda con los resultados obtenidos en estudios anteriores (Elder & Ellis, 2009; Roehr & Gánem-Gutiérrez, 2009) y muestra como diferentes tareas escritas sin límite de tiempo (examen TOEFL, exámenes escritos de conocimiento gramatical y de vocabulario), representan medidas de conocimiento explícito.

Conclusiones relativas a descubrimientos que desarrollan previas investigaciones

(5) Los métodos de instrucción utilizados en esta investigación no fueron estadísticamente significativos en el desarrollo global del conocimiento de la segunda lengua. Sin embargo, contribuyeron positivamente a fomentar ese conocimiento. Ello parece lógico tiendo en cuenta que la mejora en el conocimiento de estructuras gramaticales específicas, va a redundar en una mejora del conocimiento integral de esa misma lengua. Este trabajo desarrolla otras líneas de investigación anteriores (Gutiérrez, 2012), reiterando al mismo tiempo, la necesidad de más estudios que pongan en relación los métodos de instrucción, con las medidas de logro, considerando varios moderadores, como el tiempo de exposición, los tipos de interacción y las condiciones de aprendizaje.

(6) En el estudio de la relación entre métodos de instrucción y transferencia entre la primera y segunda lengua, los trabajos de Scott (1989, 1990) y Montrul & Ionin (2012) respectivamente fueron tomados como referencia. Para investigar los efectos de la transferencia de lenguaje, llevamos a cabo las mismas pruebas realizadas por Scott: un juicio de valor verdadero, una tarea de agrupar fotos y textos, y un juicio de aceptabilidad con frases y fotografías. Sin embargo, en nuestro estudio, quisimos investigar la existencia de algún tipo de influencia entre los mecanismos de instrucción y la transferencia entre las dos lenguas. Los resultados nos mostraron que el método de instrucción explícito aplicado a los estudiantes de un

nivel más avanzado (nivel intermedio) ayudó a los mismos a mitigar los efectos de la transferencia entre la primera y la segunda lengua in dos áreas específicas: en el uso de artículos definidos y posesivos en contextos de posesión alienable e inalienable. Estos resultados concuerdan con los de otro estudio similar (Spada & Lightbown, 1999), en el que se investigaban los efectos de un método de instrucción (explícito) sobre la transferencia entre la primera lengua (francés) y la segunda (inglés). Este tipo de relación (entre los métodos de instrucción y la transferencia de lenguas) necesita ser investigada en más profundidad, teniendo en cuenta que no hay apenas investigaciones orientadas a la misma. La mera investigación sobre la transferencia de lenguas ya es muy positiva (Odlin, 2003) para afrontar las dificultades de aprendizaje de la segunda lengua. La adición de otros moderadores en cuanto a la transferencia de lenguas, puede aportar un desarrollo decisivo a la teoría de adquisición de segundas lenguas. Este trabajo se suma a ese esfuerzo.

Conclusiones relativas a descubrimientos que tratan de aspectos no previamente investigados.

(7) Este estudio muestra que la edad de los participantes, entre los catorce y los dieciocho años, no produjo efectos significantes en la adquisición de conocimiento de la segunda lengua. Una posible explicación de ello puede estar en que los estudiantes tenían unas edades y unos niveles de competencia no muy distantes entre sí. La existencia de un período crítico de aprendizaje de una segunda lengua (desde los cinco años a la pubertad) es controvertida (Birdsong, 1999; Birdsong, 2006; Coppieters, 1987; Granena & Long, 2013; Lardiere, 2007; D. Singleton, 2001). Por este motivo, el estudio de la adquisición de una segunda lengua por adolescentes es vital para llegar a conclusiones relativas a los mecanismos que hacen posible la obtención de un nivel parecido al nativo, la mejor ruta de aprendizaje o las etapas en las que éste

puede llegar a ser más fructífero. En este sentido, la presente investigación representa un paso esencial, pues incide en la búsqueda de diferencias de aprendizaje teniendo en cuenta la edad física, en un período de continuo desarrollo a todos los niveles (físico, mental, emocional): la adolescencia.

Es importante destacar el contexto formal de aprendizaje en el que tuvo lugar este estudio: una escuela secundaria. No cabe duda de que los estudios relativos a este tipo de aprendices, son mucho menores que los relativos a los estudiantes en las universidades. En este sentido, pretendemos contribuir al esfuerzo de mitigar dichas diferencias investigadoras, creyendo firmemente en la convicción de que, con una persistente y continua investigación, se puede llegar a avances notables en la teoría de la adquisición de segundas lenguas. Es ése, el principal objetivo de este trabajo.

APPENDIX A. Language Background Questionnaire

Welcome to the language background questionnaire portion of the Winter 2015 Trimester Spanish study.

This is a reminder that you have consented to participate in this research study about the development of Spanish as a foreign language. Please, complete the following questionnaire so that we may learn about your previous experience with language learning. The information you provide is confidential. Please note that we need to collect your name and contact information to match your responses in this questionnaire to data from your other study sessions. However, only the researchers will have access to your information.

If you have any questions about the study, you may contact:

Jorge Gabriel Berges Puyo at (706) 746 7762 or gberges@rabungap.org

If you consent to participate, please respond the questions. Thank you very much for your participation!

LANGUAGE BACKGROUND QUESTIONNAIRE 2015

I. Background and demographic information.

NAME (LAST, FIRST): _____

SEX: M F DATE OF BIRTH: _____ EMAIL:_____@rabungap.org

Please, indicate which hand you write with:	LEFT	RIGHT
Do you have normal vision?	YES	NO
If NO, do you wear glasses or contacts?	YES	NO
Do you have any hearing problems that you are aware of?	YES	NO

If YES, please explain below:

Please, provide the following information:

Year of study: Freshman Sophomore Junior Senior

Where you born in the United States? YES NO

If NO, at what age did you begin residing in the US? _____

II. Spanish learning background.

CURRENT SPANISH COURSE (FALL 2015): Please choose one.

SPANISH I CURRENT SPANISH INSTRUCTOR_____

SPANISH 3 / 3 HONORS

Did you take any online placement exam prior to enrolling in the above course? YES NO

If so, did you enroll based on exam results? YES NO

If not, please explain_____

How many years have you studied Spanish in a school setting prior to enrolling in your current Spanish course? Please, select the appropriate option and estimate according to any previous elementary school, middle school or high school instruction.

0-1 year 1.5-2 years 2.5-3 years 3.5-4 years 4.5-5 years 5+years Other_____

Have you ever spent time abroad in a Spanish-speaking country? YES NO

If so, for how long were you there? Weeks: _____

Months: _____

Years: _____

What was the purpose of your trip?

Study abroad Travel Other: _____

III. Language learning background.

This portion of the questionnaire asks about your native language and any previous language learning experience excluding Spanish. You have to provide information on all of your languages.

What is your native language (the language you first spoke)? If you spoke a native language OTHER THAN English or if you speak a native language IN ADDITION TO English, please write it in the space below

_____

_____

English

I speak a native language OTHER THAN English

I speak a native language IN ADDITION to English.

Please specify your native language(s) here:

_____

Native language (1): _____

At what age did you begin learning this language? For example, write "Birth" or another age such as "Five years" if you started learning it later in childhood. _____

Did you receive any formal instruction in this language? YES NO

If so, please estimate the amount of years you were formally instructed in this language.

_____

How would you rate your PRESENT proficiency in this language in each of the areas listed below? Please use the following scale:

6 = LIKE A NATIVE SPEAKER

5 = NEAR (ALMOST) NATIVE

4 = GOOD

3 = FUNCTIONAL

2 = POOR

1 = NONE OR ALMOST NONE

Speaking	1	2	3	4	5	6
Reading	1	2	3	4	5	6
Writing	1	2	3	4	5	6
Listening	1	2	3	4	5	6

How often do you CURRENTLY USE this language in each of the contexts listed below? Please use the following scale:

4 = ALWAYS **3 = FREQUENTLY** **2 = RARELY** **1 = NEVER**

I speak it at work:	1	2	3	4
I speak it at home:	1	2	3	4
I read it at work:	1	2	3	4
I read it at home:	1	2	3	4
I write it at work:	1	2	3	4
I write it at home:	1	2	3	4

I listen to it at work: 1 2 3 4

I listen to it at home: 1 2 3 4

If you know another language that you also consider to be your native language, write it below and indicate the information requested about:

ANOTHER NATIVE LANGUAGE_____

Age of exposure_____

Years of formal instruction_____

Present proficiency_____

Frequency use/Context_____

Do you speak a second language that you learned after childhood besides Spanish? YES NO

If so, which language is it? _____

Age of exposure_____

Years of formal instruction_____

Present proficiency_____

Frequency use/Context_____

IV. Summary of language use and additional comments

In this section, we would like to ask you to estimate the percentage of time you spend using each of your languages at HOME/SCHOOL/WORK. (Note that percentages should add up to 100%. If they do not, please briefly explain why).

_____

_____

_____

_____

Comments: _____

Please briefly describe any other language learning experience you have that the previous questions have not sufficiently captured.

_____

_____

_____

Congratulations! You have completed the language background questionnaire.

If you have questions about the study, you may contact Gabriel Berges at gberges@rabungap.org or (706) 746 7762

APPENDIX B. Timed Grammaticality Judgment Test (TGJT) Script

Welcome to the timed grammaticality judgment test!

In this test, you are going to see a self-paced PowerPoint slide show of 72 sentence pairs. The first one will be in Spanish and the second one in English. You are asked to evaluate the second sentence (in English) as either grammatical or ungrammatical in the context of the first sentence (in Spanish).

Therefore, your job in this task is the following:

First, circle YES (grammatical) or NO (ungrammatical) based on your judgment of the second sentence in the context of the first sentence. You might circle YES when you judge both sentences correct.

Next, if you choose the NO response, please provide a correction of the sentence in Spanish based on your knowledge of the rule that may apply. Please, write only the part of the sentence has been corrected.

The sentences will remain on the screen for 3 seconds. After that, you will have other additional 3 seconds to write the (corrected) responses below.

Underlined, you will find the specific structures to focus on.

Good luck!

1. YES	NO	2. YES	NO	3. YES	NO
_____		_____		_____	
4. YES	NO	5. YES	NO	6. YES	NO
_____		_____		_____	
7. YES	NO	8. YES	NO	9. YES	NO
_____		_____		_____	

APPENDIX C. Untimed Grammaticality Judgment Test (UGJT) Script

Welcome to the untimed grammaticality judgment test!

In this test, you will see 72 sentences written in Spanish. You are asked to evaluate the grammaticality of each sentence as either grammatical or ungrammatical.

Therefore, your job in this task is the following:

First, circle YES if you consider the sentence to be correct (grammatical) or NO if you consider that the sentence in not correct (ungrammatical) based on your judgment of the sentence. Next, if you choose the NO response, please provide a correction of the sentence in Spanish based on your knowledge of the rule that may apply.

Underlined, you will find the specific structures to focus on.

There is **no time limit** to this task. Good luck!

1. Carlos siempre <u>se levanta</u> temprano.

YES NO

2. Laura tiene una hermana. <u>Una hermana</u> se llama María.

YES NO

3. Tú nunca <u>despides</u> cuando te vas.

YES NO

4. Carlos tiene un coche. <u>Coche</u> es rojo.

YES NO

5. El perro de José siempre está sentado. <u>Perros</u> son muy tranquilos.

YES NO

6. Ramón tiene un hermano. <u>El hermano</u> se llama Raúl.

YES NO

7. María tiene una flor. <u>La flor</u> es muy hermosa.

YES NO

8. Fernando vio la casa. Una ventana estaba rota.

YES NO

9. Carlos tiene un coche amarillo.

YES NO

10. Ramiro encontró un trabajo. Trabajo es fácil.

YES NO

11. Luis estudia para el examen.

YES NO

12. Marcos tiene una camisa. Una camisa es roja.

YES NO

13. Tengo un coche verde.

YES NO

14. A los niños les gusta el pastel.

YES NO

15. Carlos está observando una rosa. La rosa es bonita.

YES NO

16. Mi padre es abogado.

YES NO

17. Ramiro posee una casa. Una casa es bonita.

YES NO

18. Los niños les gusta las frutas.

YES NO

19. El gato de Mario está durmiendo. Gatos son muy dormilones.

YES NO

20. Miguel siempre levanta a las 10.

YES NO

21. Ramón observó la escena. Una mujer estaba llorando.

YES NO

22. Ana tiene una camisa rojo.

YES NO

23. María vende una chaqueta. Chaqueta es bonita.

YES NO

24. Luisa miras una película.

YES NO

25. Miguel tiene un perro. El perro se llama Mocheté

YES NO

26. Quiero una roja manzana.

YES NO

27. Oscar tiene una bicicleta. Bicicleta es blanca.

YES NO

28. Mi tía está profesor.

YES NO

29. Carolina tiene una tortuga. Una tortuga se llama Andrea

YES NO

30. Yo me ducho dos veces al día.

YES NO

31. Marcos miró por la ventana. Un pájaro estaba cantando.

YES NO

32. Yo vas al cine.

YES NO

33. Mi primo tiene un reloj. Un reloj es bonito.

YES NO

34. Yo siempre lavo la cara por la mañana.

YES NO

35. Mi hermano tiene un regalo. El regalo es para mí

YES NO

36. Yo tengo una pelota amarilla.

YES NO

37. Ella quiere un blanco abrigo.

YES NO

38. Mi hermana mira el lago. Lago está vacío.

YES NO

39. Yo miro la televisión.

YES NO

40. Mi hermana tiene un perro pequeña.

YES NO

41. La niña aprende la lección. Lección es fácil.

YES NO

42. Vosotros tenéis una casa pequeña.

YES NO

43. Mi amigo tiene una prima. La prima se llama Manuela.

YES NO

44. El caballo de Rosa es muy bonito. Caballos son muy hermosos.

YES NO

45. Carlos observa a un niño. Un niño se llama Pedro.

YES NO

46. Tu mamá es dentista.

YES NO

47. Mi primo vió la escuela. Una puerta estaba abierta.

YES NO

48. A mí me gusta el fútbol.

YES NO

49. El amigo contempló el jardín. Un árbol era enorme.

YES NO

50. Yo estoy fontanero.

YES NO

51. Jorge tiene un problema. El problema es importante.

YES NO

52. Me gusta los plátanos.

YES NO

53. Tu papá tiene un perro. Perro es gracioso.

YES NO

54. Lucía se viste muy rápido.

YES NO

55. Nosotros tenemos un inteligente hermano.

YES NO

56. Yo tengo un balón. Un balón es azul.

YES NO

57. A mi hermano le gustan el arroz.

YES NO

58. La mamá oyó un ruido. Un libro se cayó.

YES NO

59. Usted tiene una bolsa pesada.

YES NO

60. La cantante tiene un gato. Gato es blanco.

YES NO

61. Mi hermana trabaja como dependienta.

YES NO

62. Tu profesor tiene un coche. El coche es verde

YES NO

63. El papá de María es policía.

YES NO

64. Yo vendo un coche nueva.

YES NO

65. Mi primo está electricista.

YES NO

66. Nosotros tenemos un huerto. Un huerto es pequeño.

YES NO

67. La ovejita de Gabriel está muy tranquila. Ovejas son dóciles.

YES NO

68. Nosotros beben mucha agua.

YES NO

69. Mi hermano vió la habitación. Un cuadro era bonito.

YES NO

70. María tiene las piernas largas.

YES NO

71. Jorge observó el cielo. Una nube tenía forma de árbol.

YES NO

72. A ellos les gustan las fresas.

YES NO

APPENDIX D. Example of a text with a target structure (definite article second mention) for the implicit method.

¡Hola! Me llamo Roberto y tengo quince años. Soy de España. Ayer me dieron un regalo. **El regalo** fue de mi abuelo José.

Mi mejor amigo se llama Carlos y tiene un hermano. **El hermano** es mayor que él, tiene veintiún años y está estudiando en una universidad. **La universidad** está en otra ciudad, en Málaga.

Mi amigo y yo pasamos mucho tiempo juntos. La semana pasada, por ejemplo, fuimos a jugar un torneo. **El torneo** era de fútbol. Nos encanta el fútbol.

Ahora mismo estamos estudiando para un examen. **El examen** es de lengua española. No es un problema. **El problema** es que el año que viene quiero ir a vivir a Argentina pero no sé si es posible.

Carlos tiene un perro. **El perro** se llama Mocheté. Es muy gracioso. ¡Me encantan los perros! Carlos vive en un apartamento. **El apartamento** es muy grande y bonito. ¡Nos vemos pronto!

APPENDIX E. Example of explicit instruction method.

Day 2: impossibility bare singular count noun.

Count nouns: individual people, animals, places, things or ideas which can be counted: cars, dogs, books, houses, etc.

Non-count nouns or mass nouns: they cannot be counted: metal, plastic, glass, leather, rice, meat, dust, air, etc.

REGLA: un nombre contable singular nunca puede ir sin un determinante que lo acompañe. Esta regla se aplica para ambos idiomas, inglés y español. Tanto si repetimos el mismo nombre procedente de la primera frase, como si este nombre está relacionado con la misma pero sin ser él mismo, no es posible su utilización sin ser acompañado de un artículo.

RULE: a bare singular count noun is not allowed either in Spanish or in English. This rule applies then for both languages. Either way, if the same noun is repeated from the first sentence or it is a related noun but not identical, it is not possible without an article.

Examples:

La amiga contempló el jardín. Una ardilla estaba jugando.

The friend contemplated the garden. A squirrel was playing.

Mi hermano mira el lago. Lago está vacío.

My brother is looking at the lake. Lake is empty.

La niña aprende la lección. Lección es fácil.

The little girl is learning the lesson. Lesson is easy.

4. Mi hermano vio la habitación. Un cuadro era bonito.

My brother saw the room. A painting was beautiful.

5. La mamá oyó un ruido. Un libro de cayó.

The mom heard a noise. A book fell down.

APPENDIX F. Truth-Value Judgment Task (TVJT) Script.

Welcome to the Truth-Value Judgement Task!

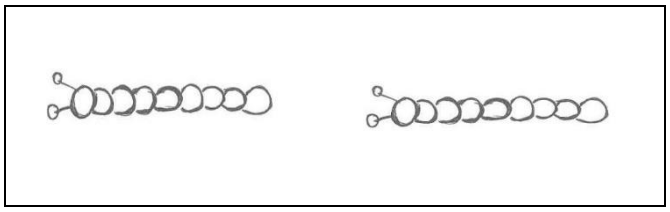
You will find a story accompanied by a picture and followed by a test sentence.

In this task you have to follow these steps:

1. Read the story
2. Observe the picture.
3. Judge the test sentence as TRUE or FALSE in the context of the story

1. *El otro día caminando me encontré con un ciempiés sin patas. ¡Qué extraño! Los ciempiés tienen muchas patas.*

The other day I went for a walk and I saw two centipedes without legs. It was very strange! Centipedes have a lot of legs.



a. Los ciempiés no tienen patas. TRUE (specific)
FALSE (generic)
['The centipedes don't have legs']

b. Los ciempiés tienen patas. *TRUE* (generic)
FALSE (specific)
['The centipedes have legs']

c. Estos ciempiés tienen patas. *TRUE*
['These centipedes have legs'] FALSE

2. *Como la semana pasada hacía mucho calor, Carlos decidió ir a la piscina todos los días. Estuvo allí como 6 ó 7 horas cada día. Se dedicó a leer varios libros, escuchar música y relajarse. ¡Pasó una semana fantástica!*

Since the last week was very hot, Carlos decided to go to the swimming pool every day. He was there 6 or 7 hours a day. He spent the time reading several **books**, listening to music and relaxing himself. It was a great week for him!

a. *Luis <u>leyó</u> muchos libros la semana pasada. Los suyos eran interesantes.*
['Luis read a lot of books last week. Theirs were very interesting'] TRUE
FALSE

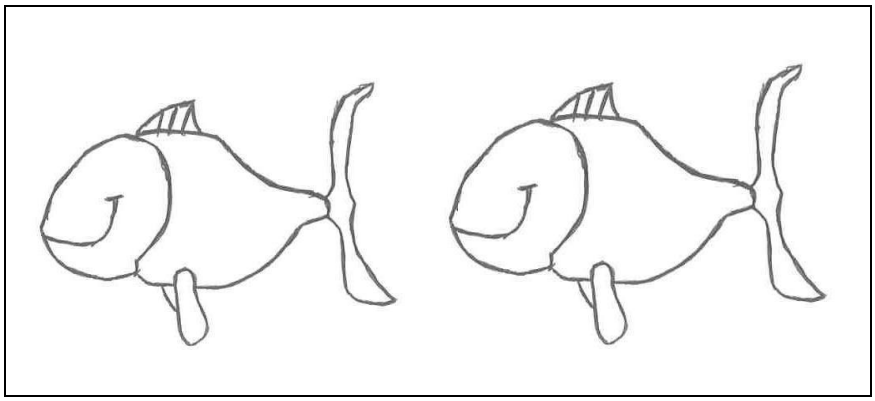
b. *Luis leerá muchos libros. Los suyos son interesantes.*
['Luis will read a lot of books. Theirs are very interesting'] TRUE
FALSE

3. *El año pasado compramos una casa. Después de mirar muchas, decidimos comprar una de dos plantas muy bonita, con un jardín grande y situada en un lugar muy bueno de la ciudad. ¡Somos muy felices aquí!*
Last year we bought a **house**. After looking at many of them, we decided to buy a two-storey one with a big yard and situated in a very convenient place. We are very happy here!

a. El año pasado comprábamos una casa. La nuestra se quedó pequeña. TRUE
FALSE
['Last year we were buying a house. Ours was too small']

b. El año pasado compramos una casa. La nuestra se había quedado pequeña. TRUE
FALSE
['Last year we bought a house. Ours was too small']

4. Ayer por la mañana mis amigos y yo visitamos el acuario de Madrid. Fue muy extraño. Había dos peces sin ojos. Nos quedamos muy sorprendidos.
Yesterday in the morning, my friends and I went to the aquarium in Madrid. It was very weird. There were two fishes with no eyes. We were taken aback.



a. Los peces tienen ojos. TRUE (generic)
FALSE (specific)
['Fish have eyes']
b. Los peces no tiene ojos. TRUE (specific)
FALSE (generic)
['Fish don't have eyes']

c. Estos peces tienen oj . TRUE
['These fish have eyes'] FALSE

5. *Ayer fui a comprar un balón de baloncesto. ¡Me encanta el baloncesto! Después de eso, llamé a mis amigos y fuimos a jugar un partido al parque. ¡Nos lo pasamos muy bien! ¡Fue un modo perfecto de estrenar la pelota!*
Yesterday I went to buy a **basketball.** I love basketball. After that, I called my friends and we all went to play some ball at the park. We had so much fun! It was a perfect way to use the ball for the first time!

a. Ayer jugaba al baloncesto con mis amigos. Los míos juegan muy bien. TRUE
FALSE

['Yesterday I used to play basketball with my friends']. Mine played very well.

b. Ayer jugué al baloncesto con mis amigos. Los míos juegan muy bien. TRUE
FALSE

['Yesterday I played basketball with my friends. Mine play very well']

6. *Mi prima tiene muchos libros de princesas. Ayer fuimos a visitarla y nos lo pasamos muy bien. Nuestra hija y ella estuvieron leyendo esos libros toda la tarde y disfrutaron muchísimo.*
My cousin has a lot of princess **books.** Yesterday we went to visit her and we had so much fun! Our daughter and her were reading those books the whole afternoon. They enjoyed a lot!

a. Ayer leíamos los libros de la prima. Los nuestros estaban en casa. TRUE
FALSE

['Yesterday we used to read our cousin's books. Ours were at home']

b. Ayer leímos los libros de la prima. Los nuestros estaban en casa. TRUE
FALSE

['Yesterday we read our cousin's books. Ours were are home']

7. *La semana que viene tengo que ir a comprar un nuevo televisor. El que tengo ahora se estropeó y ya no funciona. He visto alguna oferta y creo que podré comprar uno bastante bueno a buen precio.*
Next week I have to buy a new **tv.** The one that I have now got broken and it doesn't work anymore. I found some good deals and I believe I will be able to buy a good one at a good price.

a. Ayer compré una televisión. La mía se estropeó. TRUE
FALSE

['Yesterday I bought a tv. Mine got broken']

b. Tengo que comprar una televisión. La mía se estropeó. TRUE
FALSE

['I have to buy a tv. Mine got broken']

8. *Ayer fui al cine con mi amiga Rosa. A la hora de pagar las entradas, me di cuenta de que había olvidado el dinero, pero mi amiga me invitó no sólo con la entrada sino también comprando palomitas y refrescos para los dos. ¡Qué bien lo pasamos viendo la película!*

Yesterday I went to the movies with my friend Rosa. At the time to pay for the tickets, I realized I had forgotten my wallet but my friend invited by paying the ticket and the concessions. We had a wonderful time!

a. Rosa pagó el cine de los dos con su dinero. El mío lo había olvidado. TRUE
FALSE

['Rosa paid the movie tickets for both of us with her own money. I had forgotten mine']

b. Rosa pagaba el cine de los dos con su dinero. El mio lo olvidé. TRUE
FALSE

['Rosa was paying the movie tickets for both of us with her own money. I forgot mine']

9. *Ayer fuimos a un concierto de música clásica al aire libre. Al final refrescó y como no había cogido mi chaqueta, le pedí prestada la suya a mi amigo. ¡Qué buena persona es!*
Yesterday we went to a concert of classical music outdoors. At the end, it cooled down and since I did not bring my own **jacket,** I borrowed one from my friend. He is such a good person!

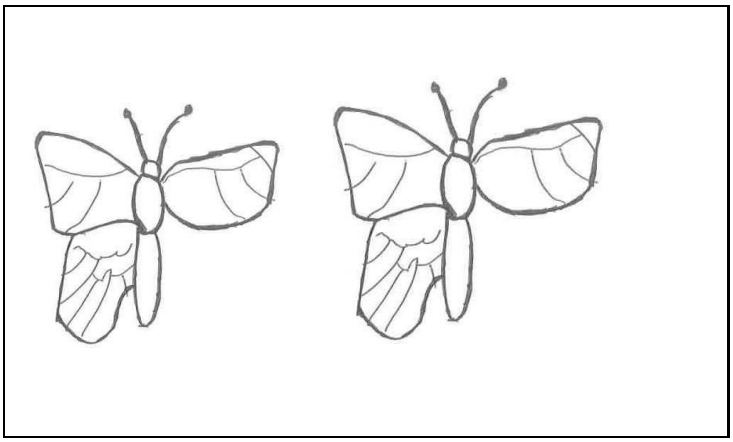
a. Ayer me prestaron una chaqueta. La mía la había olvidado. TRUE
FALSE

['Yesterday I borrowed a jacket. Mine had been forgotten']

b. Ayer me pretaban una chaqueta. La mía la olvide. TRUE
FALSE

['Yesterday I was borrowing a jacket. Mine was forgotten']

10. *La semana pasada vi un documental sobre mariposas con 3 alas. Eran muy raras.*
Last week I watched a documentary about butterflies with just three wings. That's so weird.



a. Las mariposas tienen tres alas. TRUE (specific)
FALSE (generic)

['The butterflies have three wings']

b. Las mariposas tienen cuatro alas FALSE (specific)
TRUE (generic)

['The butterflies have four wings']

c. Estas mariposas tienen tres alas TRUE
['These butterflies have three wings'] FALSE

11. *Hace dos días me fui de compras. Necesitaba comprar unas zapatillas nuevas. Al final, encontré unas buenas y a un buen precio. ¡Me puse muy contento!*
Two days ago, I went shopping. I needed to buy a pair of **sport shoes**. In the end, I bought a good ones and at an excellent price. I got very happy!

a. Mañana iré a comprar unas zapatillas. Las mías están rotas. TRUE
FALSE
['Tomorrow I will go to buy some sport shoes'. Mine are worn out']
b. Compré unas zapatillas. Las mías estaban rotas. TRUE
FALSE
['I bought some sport shoes. Mine were broken']

12. *Hace un mes, vendí mi coche. Con el dinero que me dieron y mis ahorros, compré uno nuevo. ¡Estoy muy feliz!*
One month ago, I sold my **car**. With the money I got from it and my savings, I bought a new one. I am very happy!

a. Hace un mes compraba un coche. El mío era ya viejo. TRUE
FALSE
['One month ago, I was buying a car. Mine was very old']

b. Hace un mes, compré un coche. El mío era ya viejo. TRUE
FALSE
['Once month ago, I bought a car. Mine was very old']

13. *Mañana pintaré las puertas. Son de color verde y creo que es mejor que sean de color blanco, como el de las paredes.*
Tomorrow I will paint the doors. They are green and I think it is better for them to be white, like the color of the walls.

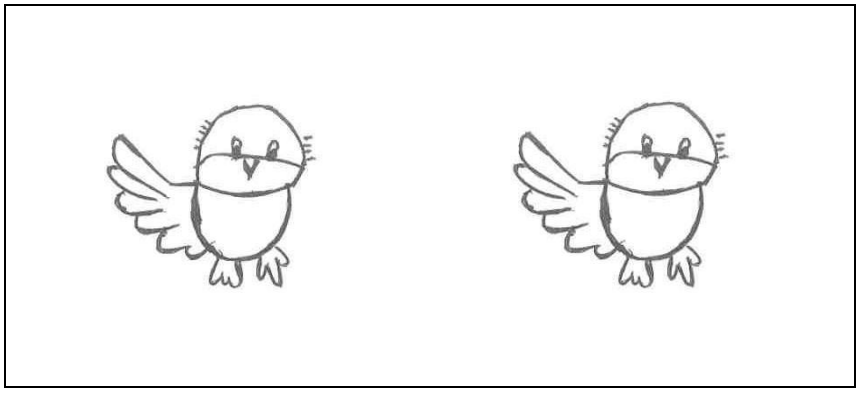
a. Ayer pinté las puertas. Las mías eran verdes y creo son más bonitas las blancas. TRUE
FALSE
['Yesterday, I painted the doors. Mine were in green and I think they are nicer in white']
b. Mañana pintaré las puertas. Las mías son verdes y creo que son más bonitas las blancas. TRUE
FALSE
['Tomorrow I will paint the doors. Mine are in green and I think they are nicer in white']

14. *Ayer compré unas nuevas pinturas para mi clase de arte. Me encanta pintar, especialmente paisajes. ¡No puedo esperar a usarlas en la próxima clase!*
Yesterday I bought some new crayons for my art class. I love painting, especially landscapes. I can't wait to start using them in the next class!

a. Ayer compraba pinturas para la clase de arte. Las mías se gastaron. TRUE
FALSE
['Yesterday I was buying some crayons for the art's class. Mine were worn out']

b. Ayer compré pinturas para la clase de arte. Las mías se gastaron. TRUE
FALSE
['Yesterday I bought some new crayons for the art's class. Mine were worn out']

15. *Un amigo me contó que el otro día estaba caminando por el parque y vio a dos pájaros con una sola ala. ¡Qué extraño!*
One friend of mine told me that the other day he was walking in the park and saw two birds with just one wing each. What a weird thing!



a. Los pájaros tienen una ala TRUE (specific)
FALSE (generic)
['The birds have just one wing']

b. Los pájaros tienen dos alas FALSE (specific)
TRUE (generic)
['The birds have two wings']

c. Estos pájaros tienen un ala TRUE
FALSE
'[These birds have just one wing']

16. *La semana pasada pedí prestada a mi amigo la cortadora de cesped. Funcionó muy bien. Estoy muy agradecido a mi amigo porque la hierba ya estaba muy alta y no sabía qué hacer.*
Last week, I borrowed the lawnmower from my friend. It worked very well. I am very grateful to my friend because the grass was very high and I did not know what to do.

a. La semana pasada pedí prestada la cortadora de cesped a mi amigo. La mía no estaba funcionando bien. TRUE
FALSE

['Last week I borrowed the lawnmower from my friend. Mine was not working well']

b. La semana pasada pedía prestada la cortadora de cesped a mi amigo. La mía no estaba funcionando bien. TRUE
FALSE

['Last week I was borrowing the lawnmower to my friend. Mine was not working well']

17. *El año que viene voy a cambiar de ciudad. Me gustan mucho las ciudades junto al mar. Pronto decidiremos a cuál ir a vivir.*
Next year I am going to change the place to live. I love places near the ocean. We will decide soon in which one we will move to.

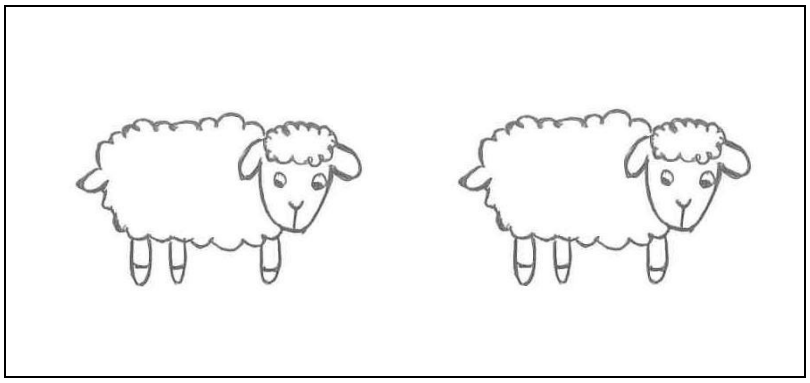
a. La semana pasada cambié de ciudad. La mía no estaba junto al mar. TRUE
FALSE

['Last week I moved to another town. Mine was not near the ocean']

b. El año próximo voy a cambiar de ciudad. La mía no está junto al mar. TRUE
FALSE

['Next year I am going to move to another town. Mine is not close to the ocean']

18. *Hoy fui a mi pueblo en las montañas. Mientras estaba conduciendo vi algo muy extraño: dos ovejas con sólo tres patas. ¡Es algo único!*
Today, I went to visit my village in the mountains. While driving, I saw something very strange: two sheeps with only three legs each. It is something unique!



a. Las ovejas tienen tres patas TRUE (specific)
FALSE (generic)

['The sheep have three legs']

b. Las ovejas tienen cuatro patas TRUE (generic)
FALSE (specific)

['The sheep have four legs']

c. Estas ovejas tienen cuatro patas. TRUE
FALSE

['These sheep have four legs']

19. *Ayer presté mi diccionario a Ramón. Él tenía que hacer una traducción en español y no encontraba su diccionario. Me alegro de poder haberle ayudado.*
Yesterday, Ramon borrowed my dictionary. He was supposed to make a translation in Spanish and he did not find his dictionary. I am glad I could help him.

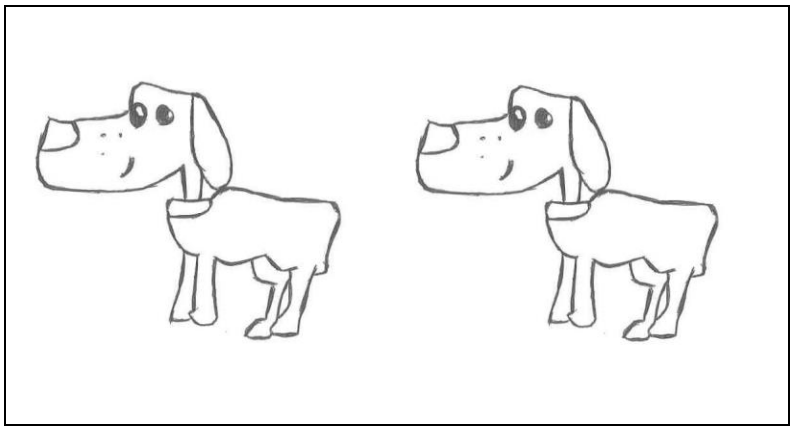
a. Ayer le presté mi diccionario a Ramón. El suyo no lo podía encontrar. TRUE
FALSE

['Yesterday Ramon borrowed my dictionary. His could not be found']

b. Le prestaría mi diccionario a Ramón. El suyo no lo puede encontrar. TRUE
FALSE

['I would let Ramon borrow my dictionary. His can't be found']

20. *Hace unos días recibí la visita de un amigo. Vino a verme con dos perros sin cola. ¡Me quedé muy sorprendido! ¡Fue algo muy raro!*
Few days ago, my friend payed a visit to me. He came with two dogs with no tail. It was very surprising!



a. Los perros no tienen cola. TRUE (specific)
FALSE (generic)

['The dogs don't have a tail']

b. Los perros tienen cola. FALSE (specific)
TRUE (generic)

['The dogs have a tail]

c. *Estos perros no tienen cola.* TRUE
FALSE

['These dogs don't have a tail']

21. *Mañana voy a ir a visitar el pueblo de mis padres en el coche de mi hermana. Mi coche está en el garaje para cambiarle el motor. ¡Va a ser un día maravilloso!*
Tomorrow I going to visit my parents small town. I will drive my sister's car. My car needs to replace the engine. It is going to be a beautiful day!

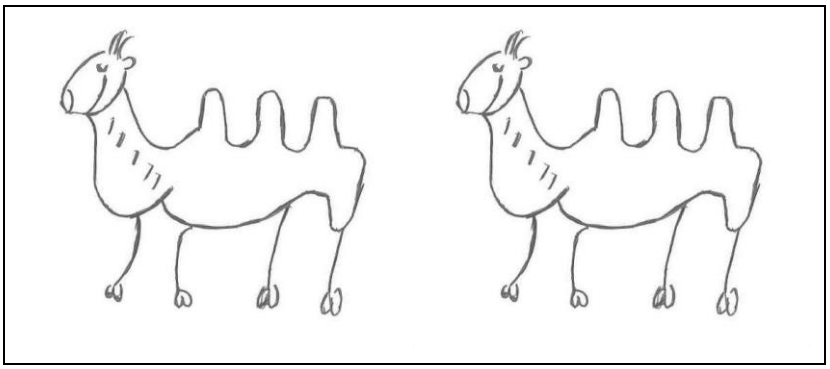
a. *Ayer fui a visitar el pueblo de mis padres con el coche de mi hermana. El mío está en el garaje.* TRUE
FALSE

['Yesterday I went to visit my parents small town in my sister's car. Mine is in the garage']

b. *Mañana voy a ir a visitar el pueblo de mis padres con el coche de mi hermana. El mío está en el garaje.* TRUE
FALSE

['Tomorrow I am going to visit my parents small town in my sister's car. Mine is in the garage']

22. *El fin de semana pasado fui al cine. Estuve viendo una película en la que habían dos camellos con tres jorobas.¡Fue muy extraño! Nunca había visto camellos con tres jorobas.*
Last weekend I went to the movies. I was watching a movie in which there were two camels with three humps. It was very weird! I never saw camels with three humps.



a. *Los camellos tienen tres jorobas.* TRUE (specific)
FALSE (generic)

['The camels have three humps']

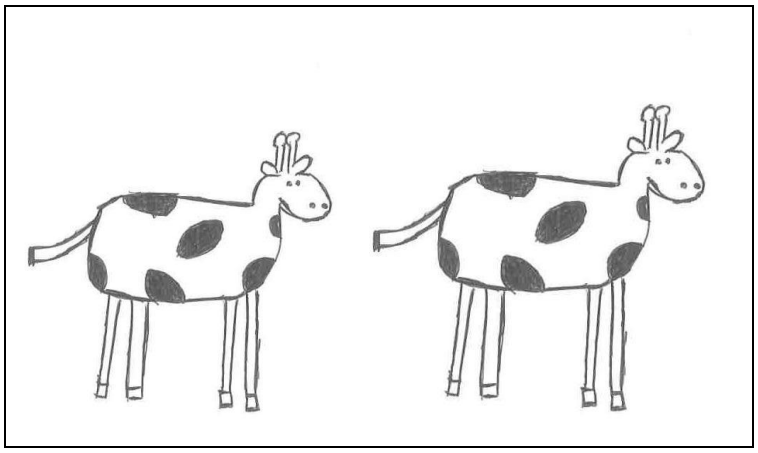
b. *Los camellos tienen dos jorobas.* FALSE (specific)
TRUE (generic)

['The camels have two humps']

c. *Estos camellos tienen tres jorobas.* TRUE
FALSE

['These camels have three humps']

23. *El mes pasado visité el zoológico de Atlanta y vi dos jirafas sin cuello. ¡Nunca había visto eso! ¡Fue algo muy raro!*
The last month I went to the zoo in Atlanta and saw two giraffes with no neck. I had never saw something like that! It was very weird!



a. Las jirafas no tienen cuello. TRUE (specific)
FALSE (generic)
['The giraffes don't have a neck']

b. Las jirafas tienen el cuello muy largo. TRUE (generic)
FALSE (specific)
['The giraffes have a very long neck']

c. Estas jirafas tienen el cuello largo. TRUE
FALSE
['These giraffes have a long neck']

24. *Anoche pasó algo muy gracioso. Me estaba cepillando los dientes antes de acostarme y no me di cuenta de que el tubo de la pasta de dientes estaba abierto. El caso es que llené todo mi pijama con pasta de dientes y tuve que dormir en el de mi hermana, que es más pequeño que el mío.*
Last night something funny happened. I was brushing my teeth before going to bed and I did not realize that the toothpaste tube was open. So, it fell down over my pyjamas. I had to sleep on my sister's, which is smaller than mine.

a. Anoche <u>dormí</u> en el pijama de mi hermana. El mío estaba sucio con pasta de dientes.
TRUE
FALSE
['Last night <u>I slept</u> on my sister's pyjamas. Mine was covered in toothpaste']

b. Mañana dormiré en el pijama de mi hermana. El mío está sucio con pasta de dientes. TRUE
FALSE
['Tomorrow I will sleep on my sister's pajamas. Mine is covered in toothpaste']

25. *Ayer fuimos a visitar el museo de arte en Madrid en el coche de mi padre. Pudimos contemplar auténticas obras de arte. ¡Nos lo pasamos muy bien!*
Yesterday we went to visit the museum of art in Madrid. We could enjoy some beautiful masterpieces. We had so much fun!

a. *Mañana iremos al museo de arte en el coche de mi padre. El mío está sin gasolina.* TRUE
FALSE
['Tomorrow we will go to visit the art museum in my father's car. Mine needs to be refueled']

b. Ayer fuimos al museo de arte en el coche de mi padre. El mío estaba sin gasolina. TRUE
FALSE
['Yesterday we went to the art museum in my father's car. Mine needed to be refueled']
TEMPORAL.

26. *Mi hermano está muy feliz. Tiene muchos deberes de español. Le encanta la clase y cuando llega a casa lo primero que hace es su tarea de español.*
My brother is very happy. He has a lot of homework for his Spanish class. He loves this class. As soon as he gets home, he starts working on his Spanish.

a. *Ayer mi primo hacía su tarea de español. La mía aún la tengo que hacer.* TRUE
FALSE
['Yesterday my cousin was doing his Spanish homework. Mine has not been done yet']

b. Ayer mi primo hizo su tarea de español. La mía aún la tengo que hacer. TRUE
FALSE
['Yesterday my cousin did his Spanish homework. Mine has not been done yet']
ASPECTUAL.

27. *He estado ordenando mi armario y me he dado cuenta de que no tengo mi abrigo para el invierno. Ahora que recuerdo, lo olvidé en la casa de nuestros tíos cuando fuimos a visitarlos hace una semana.*
I have been putting in order my closet and I realized that I don't have my winter coat. I have just remembered that I forgot it at my uncle's home at our last visit one week ago.

a. Olvidaré mi abrigo. El tuyo no lo usarás, ¿verdad? TRUE
FALSE
['I will forget my coat. Yours is not going to be used, right?']

b. Olvidé mi abrigo. El tuyo no lo usas, ¿verdad? TRUE
FALSE
['I forgot my coat. Yours is not to be worn, right?

28. *Hace una semana mi hermano compró pelotas de tenis. Después de haber jugado un par de veces con ellas, varias ya se han roto. No son de muy buena calidad.*
One week ago, my brother bought some tennis balls. After having played a couple of times with them, some got broken. They are not of a very good quality.

a. Hace una semana, mi hermano compró pelotas de tenis. Las mías no las podía encontrar. TRUE
FALSE
[‘One week ago, my brother bought some tennis balls. Mine were misplaced’]

b. Hace una semana mi hermano compraba pelotas de tenis. Las mías no las podía encontrar. TRUE
FALSE
[‘One week ago, my brother was buying some tennis balls. Mine were misplaced’]

APPENDIX G. Picture-Sentence Matching Task (PSMT) Script.

Welcome to the Picture-Sentence Matching Task (PSMT)

You will find two pictures, A and B, presented side by side with only one sentence underneath.

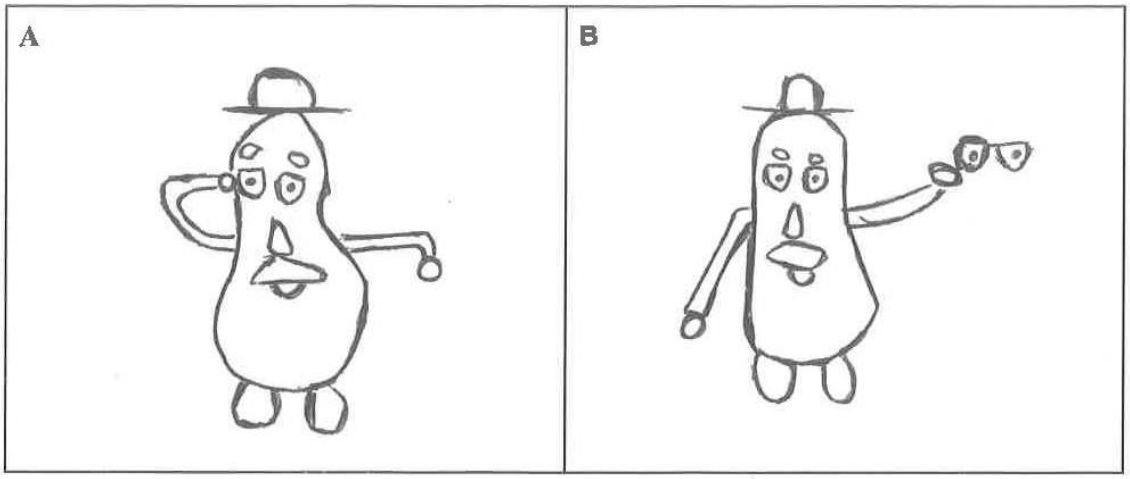
In this task, you have to follow these steps:

1. Read the story about Mr. Potato and what is happening to him.
2. Observe the pictures, A and B.
3. Read the sentences.
4. Decide for each sentence whether it describes **picture A**, **picture B** or **both pictures** by circling one of the three options: A, B or both.
5. There will be some questions not related to Mr. Potato and will come with no pictures. In those cases, answer the same way: A, B or both.

STORY.

Mr. Potato is having a fun day. While putting in order his garage, he found a box filled with some detached body parts (eyes, feet, fingers, arms, etc) that look just like his. Mr. Potato is very playful and has decided to spend the whole day playing with these body parts.

1.



a. El Sr. Patata tocó los ojos. A B Both
'Mr. Potato closed the eyes'

b. El Sr. Patata tocó sus ojos A B Both
'Mr. Potato closed his eyes'

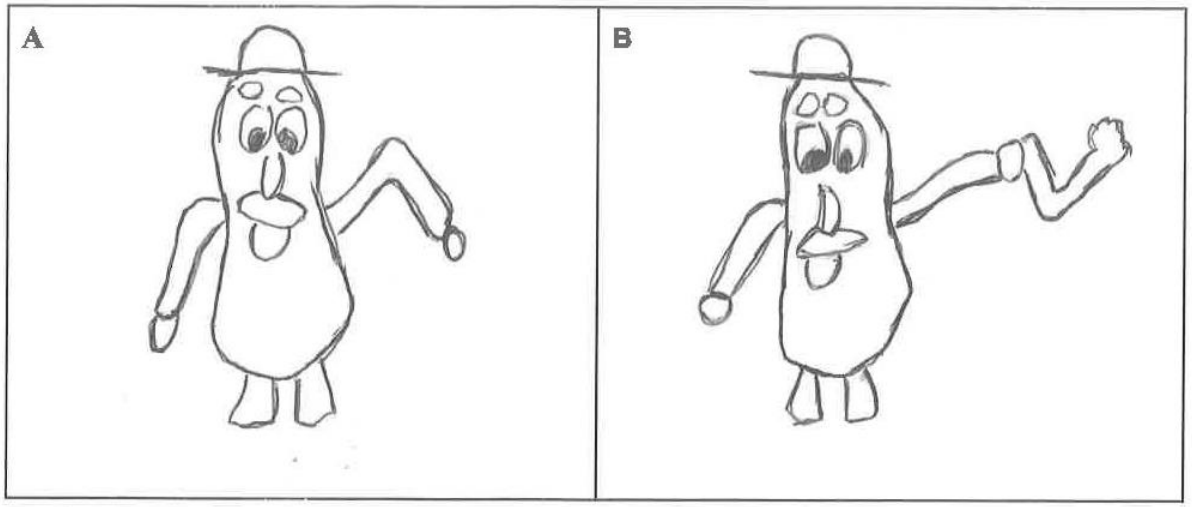
2.

a. Celia encontró un pasaporte
[‘Celia found a passport’]

b. Celia encontró su pasaporte
[‘Celia found her passport’]

A B Both

3.



a. El Sr. Patata levantó el codo A B Both
‘Mr. Potato raised the elbow’

b. El Sr. Patata levantó su codo A B Both
‘Mr. Potato raised his elbow’

4.

a. Carlos prestó los coches
[‘Carlos lent the cars’]

b. Carlos prestó sus coches
[‘Carlos lent his cars’]

A B Both

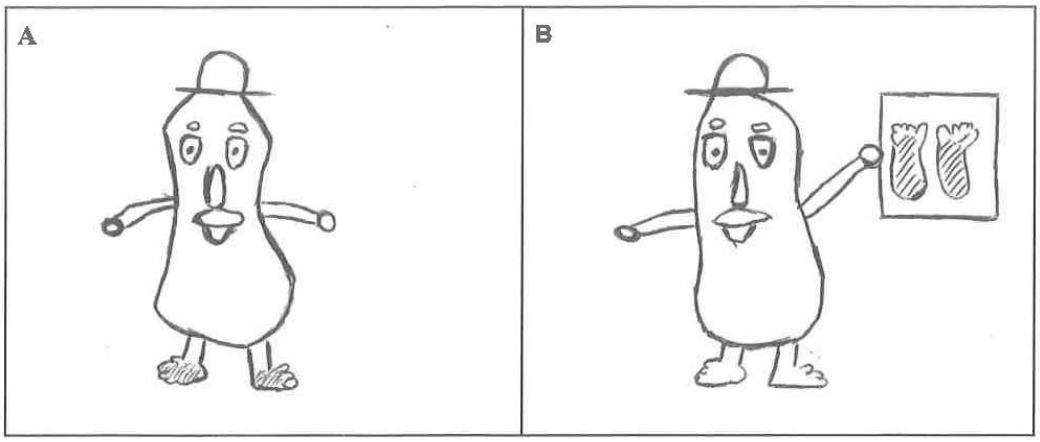
5.

a. Lucas comió la manzana
[‘Lucas ate the apple’]

b. Lucas comió su manzana
[‘Lucas ate his apple’]

A B Both

6.

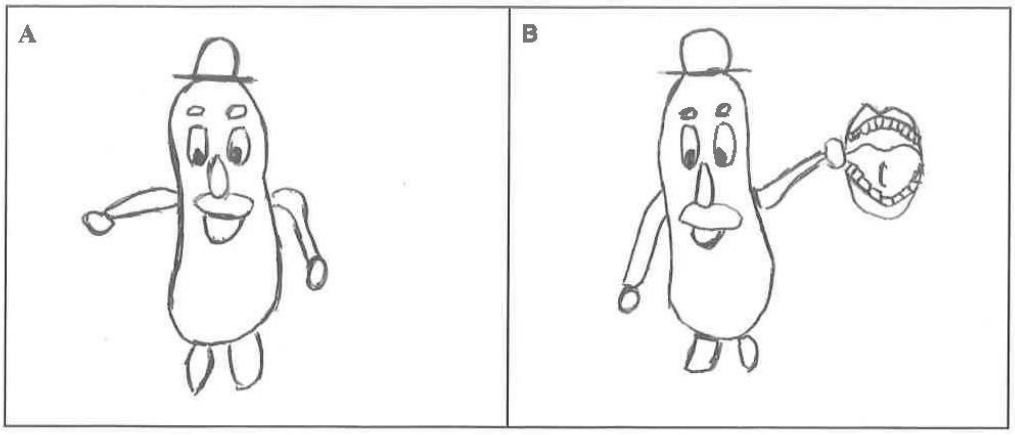


a. *El Sr. Patata pintó los pies* A B Both
'Mr. Potato painted the feet'
b. *El Sr. Patata pintó sus pies* A B Both
'Mr. Potato painted his feet'

7.
a. *Francisco limpió unas casas*
['Francisco cleaned some houses']
b. *Francisco limpió sus casas*
['Francisco cleaned his houses']
A B Both

8.
a. *María vendió los discos*
['Mary sold the cd's']
b. *María vendió sus discos*
['Mary sold her cd's']
A B Both

9.

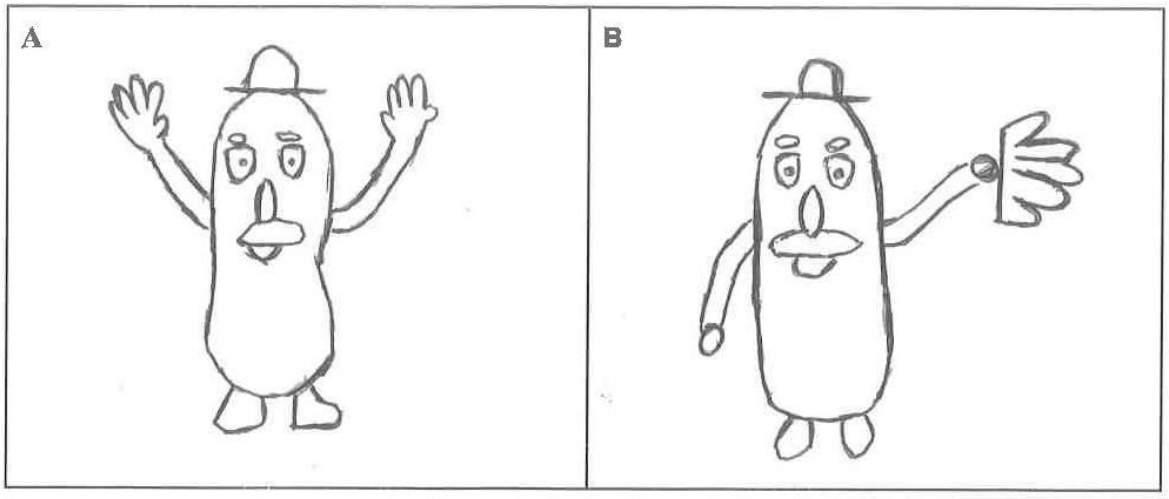


a. El Sr. Patata abrió la boca A B Both
'Mr. Potato opened the mouth'
b. El Sr. Patata abrió su boca A B Both
'Mr. Potato opened her mouth'

10.
a. Alicia olió una rosa
['Alicia smelled a rose']
b. Alicia olió su rosa
['Alicia smelled her rose']
A B Both

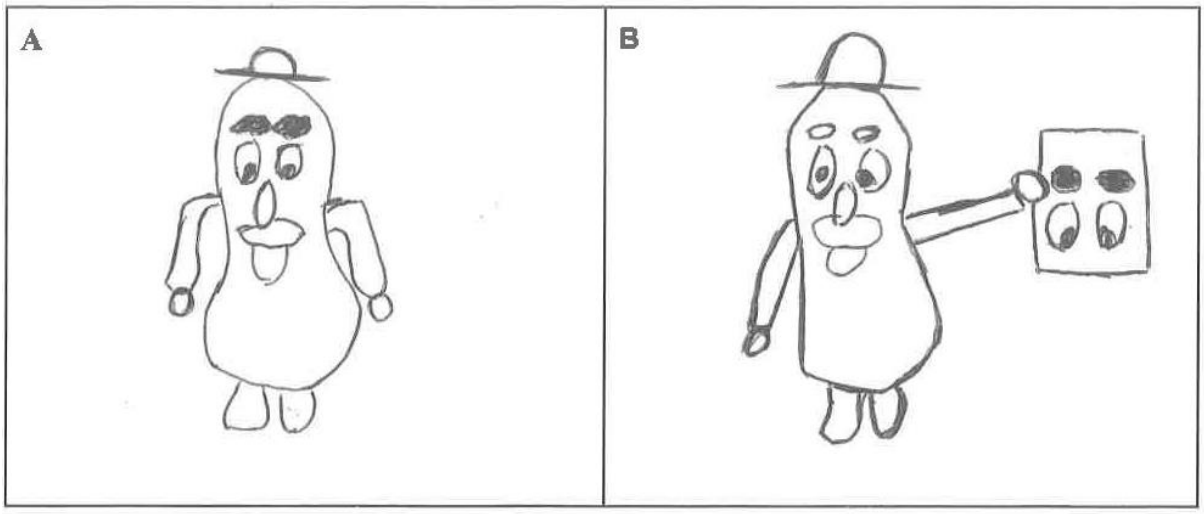
11.
a. Yo cuidé a los perros
['I took care of the dogs']
b. Yo cuidé a mis perros
['I took care of my dogs']
A B Both

12.



a. El Sr. Patata mostró los dedos A B Both
'Mr. Potato showed the fingers'
b. *El Sr. Patata mostró sus dedos* A B Both
'Mr. Potato showed his fingers'

13.

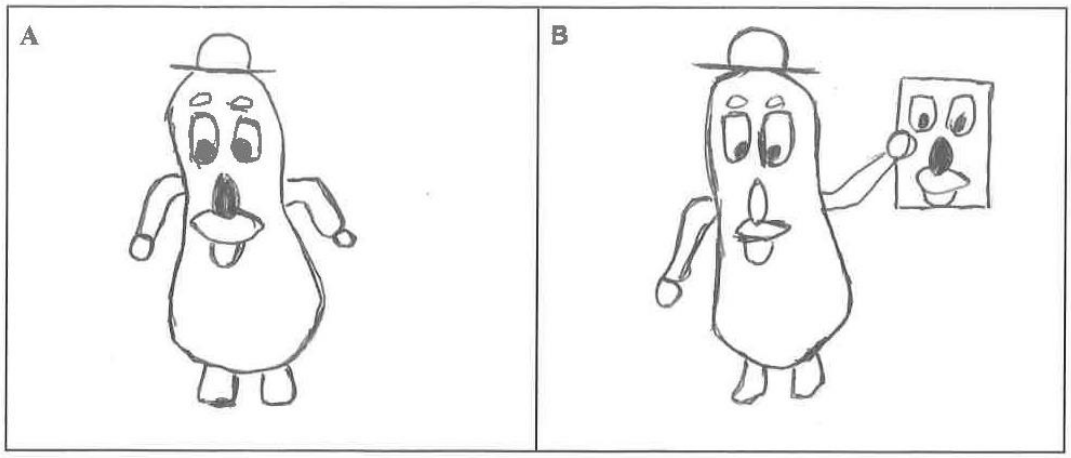


a. El Sr. Patata pintó las cejas A B Both
[‘Mr. Potato depilated the eyebrows’]
b. El Sr. Patata pintó sus cejas A B Both
[‘Mr. Potato depilated his eyebrows’]

14.
a. Ayer comí unas verduras
[‘Yesterday, I ate some vegetables’]
b. Ayer comí mis verduras
[‘Yesterday, I ate my vegetables’]
A B Both

15.
a. Gabriel bebió el zumo
[‘Gabriel drank the juice’]
b. Gabriel bebió su zumo
[‘Gabriel drank his juice’]
A B Both

16.

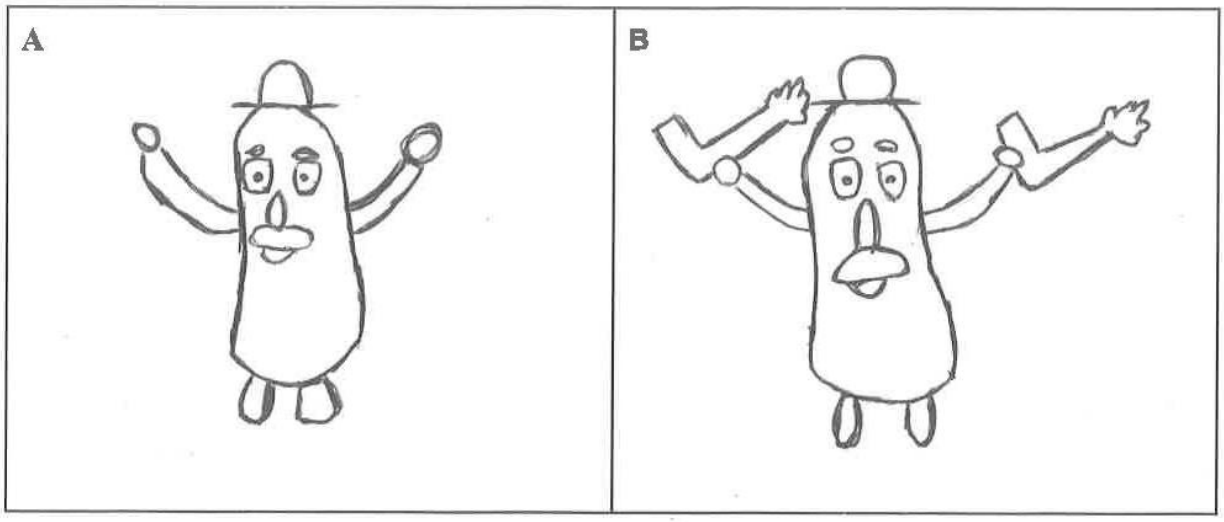


a. El Sr. Patata pintó la nariz A B Both
['Mr. Potato painted the nose']
b. El Sr. Patata pintó su nariz A B Both
['Mr. Potato painted his nose']

17.

a. Mi hermana leyó unos libros
['My sister read some books']
b. Mi hermana leyó sus libros
['My sister read her books']
A B Both

18.



a. *El Sr. Patata levantó los brazos* A B Both

‘Mr. Potato raised the arms’

b. *El Sr. Patata levantó sus brazos* A B Both

‘Mr. Potato raised his arms’

19.

a. Adrián arregló una televisión

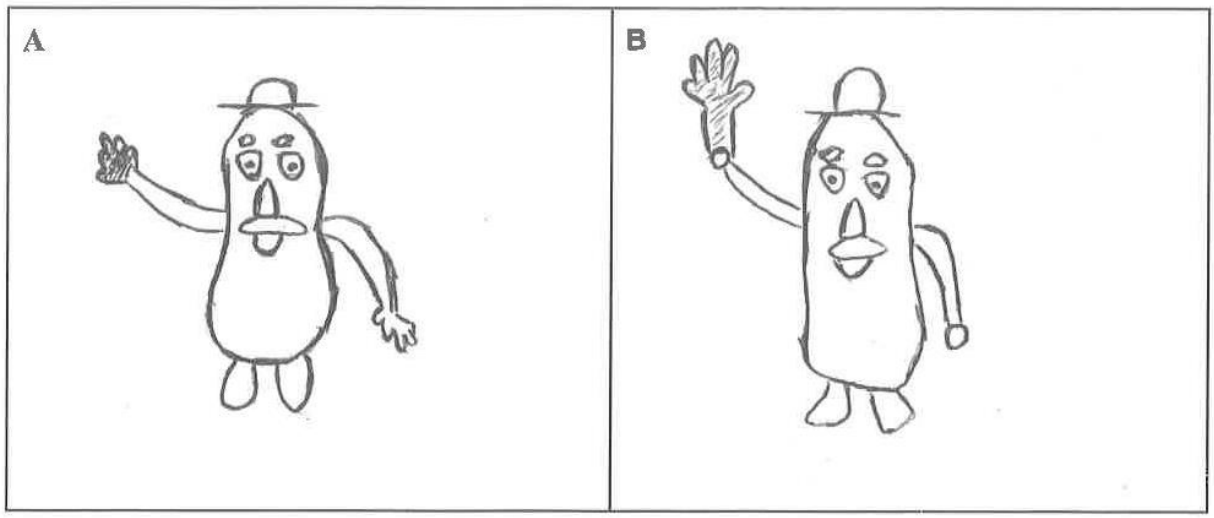
[‘Adrian fixed a television’]

b. Adrián arregló su televisión

[‘Adrian fixed his television’]

A B Both

20.



a. El Sr. Patata pintó la mano A B Both

[‘Mr. Potato painted the hand’]

b. El Sr. Patata pintó su mano A B Both

[‘Mr. Potato painted his hand’]

21.

a. Ella limpió los zapatos

[‘She cleaned the shoes’]

b. Ella limpió sus zapatos

[‘She cleaned her shoes’]

A B Both

22.

a. Luis perdió el reloj.

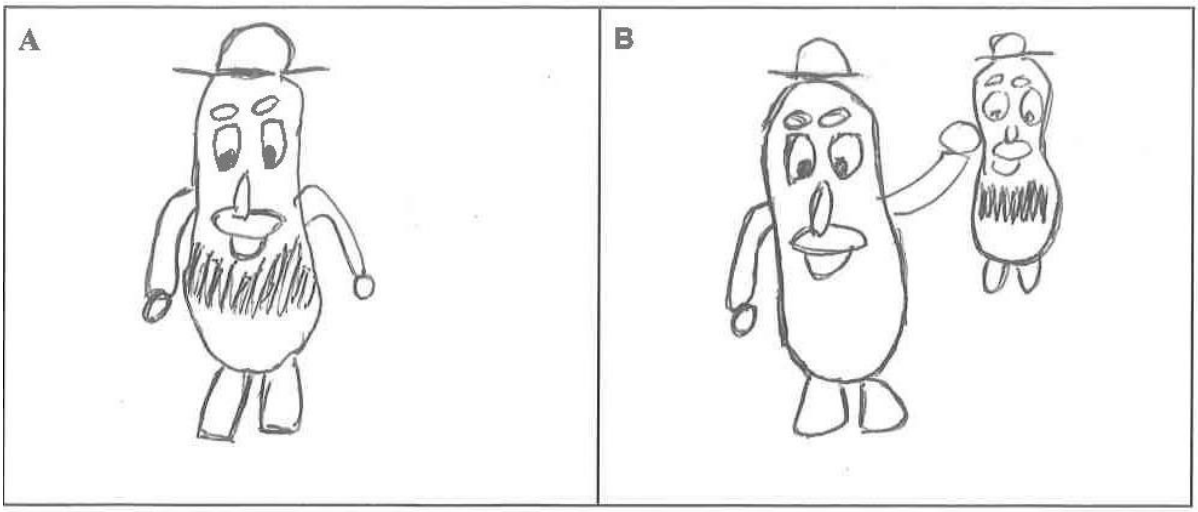
[‘Luis lost the watch’]

b. Luis perdió su reloj

[‘Luis lost his watch’]

A B Both

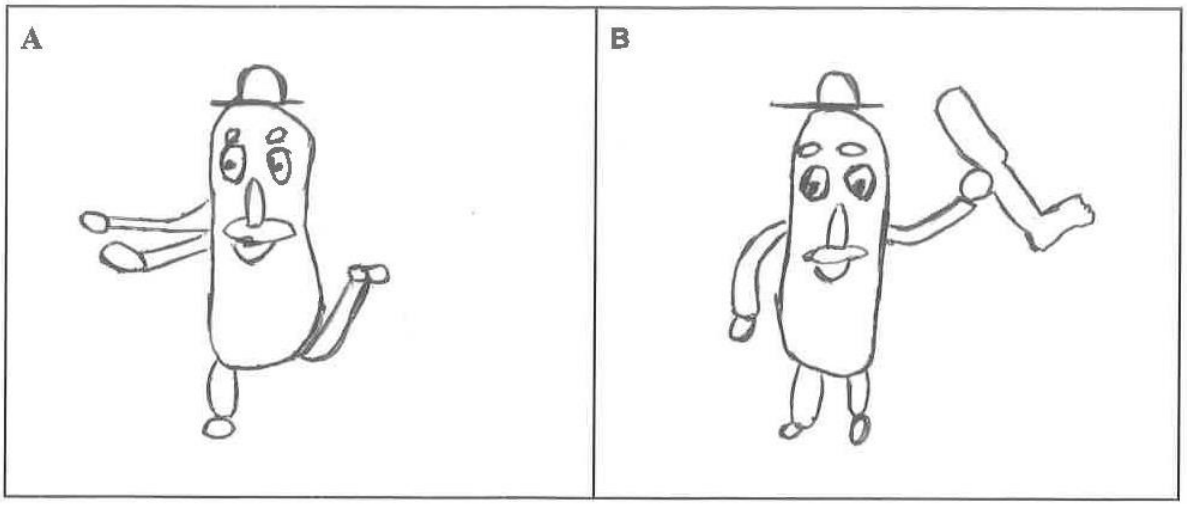
23.



a. El Sr. Patata pintó el pecho A B Both
['Mr. Potato painted the chest']
b. El Sr. Patata pintó su pecho A B Both
['Mr. Potato painted his chest']

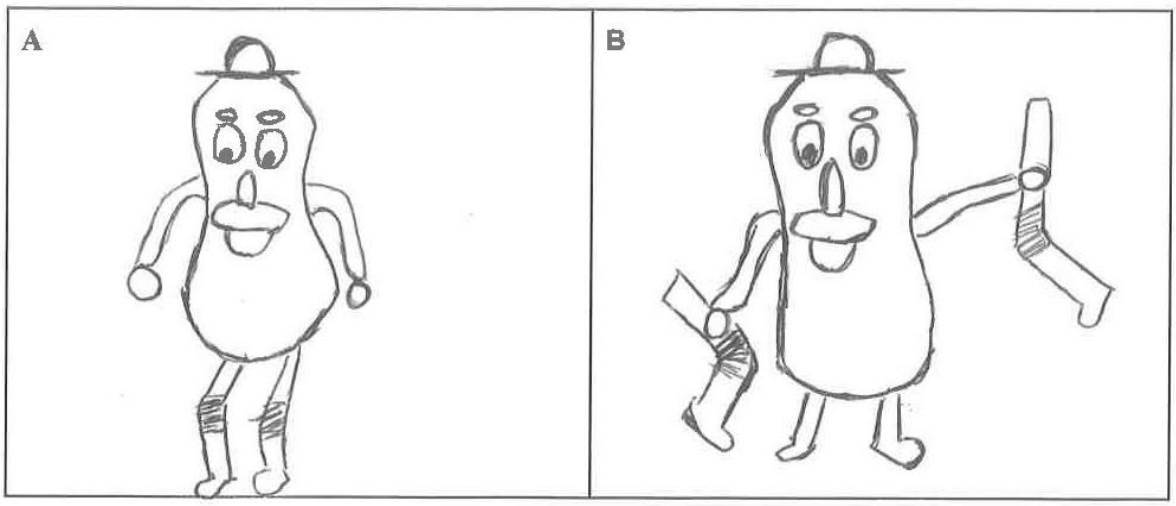
24.
a. Pedro escuchó unas canciones.
['Pedro listened to some songs']
b. Pedro escuchó sus canciones
['Pedro listened to his songs']
A B Both

25.



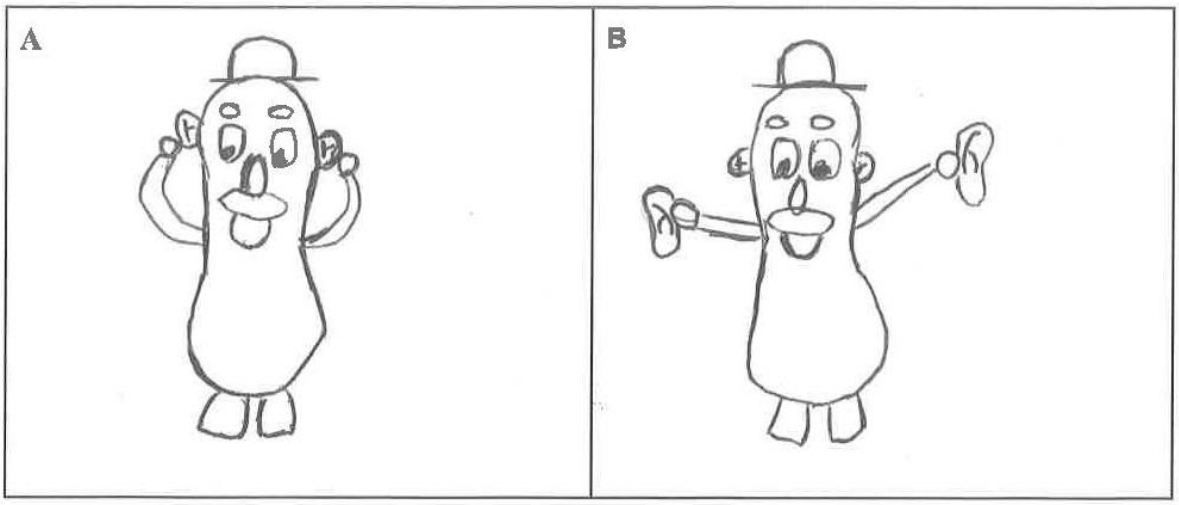
a. El Sr. Patata levantó la piern A B Both
'Mr. Potato raised the leg'
b. El Sr. Patata levantó su pierna A B Both
'Mr. Potato raised his leg'

26.



a. El Sr. Patata pintó las rodillas A B Both
'Mr. Potato painted the knees'
b. El Sr. Patata pintó sus rodil A B Both
'Mr. Potato painted his knees'

27.



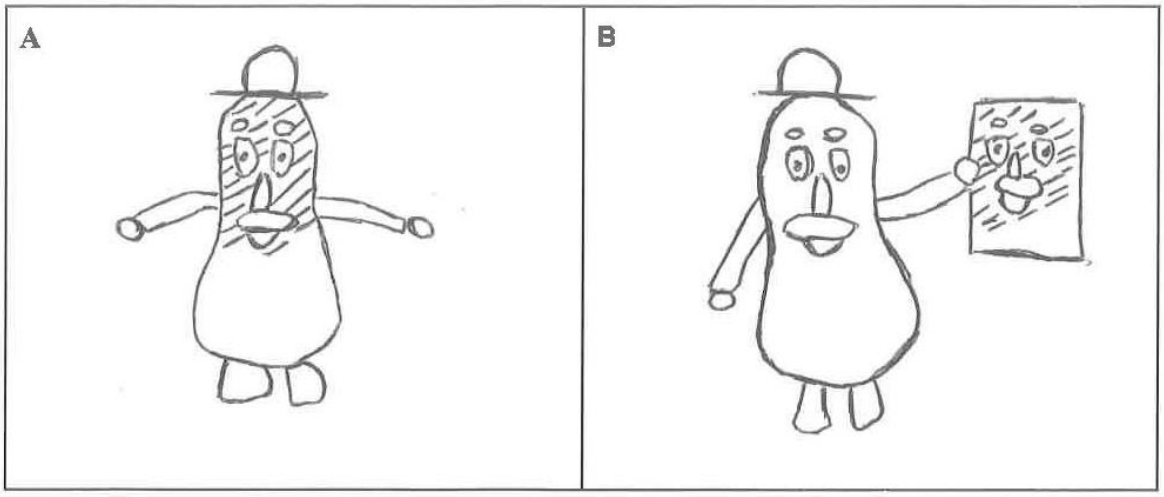
a. El Sr. Patata tocó los oídos A B Both
'Mr. Potato covered the ears'

b. El Sr. Patata tocó sus oídos A B Both
'Mr. Potato covered his ears'

28.

a. Ricardo pintó la pelota
['Ricardo painted the ball']
b. Ricardo pintó su pelota
['Ricardo painted his ball']
A B Both

29.



a. El Sr. Patata pintó la cabeza A B Both
'Mr. Potato painted the face'
b. El Sr. Patata pintó su cabeza A B Both
'Mr. Potato painted his face'

30.

a. Yo me probé una chaqueta
['I tried on a jacket']
b. Yo me probé mi chaqueta
['I tried on my jacket']
A B Both

APPENDIX H. Sentence-Picture Acceptability Judgment Task (SPAT) Script.

Welcome to the Sentence-Picture Acceptability Judgment Task (SPAT)

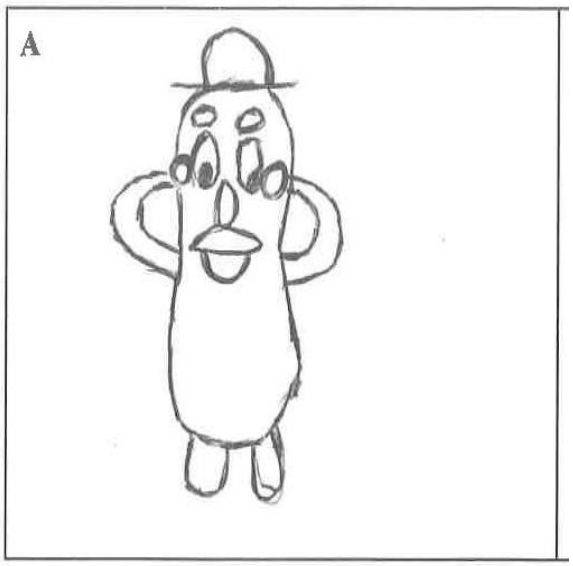
(Remember that Mr. Potato is very playful. He is still playing with those detached body parts. He is having so much fun today!

In this task, you will find one picture presented with two sentences underneath.

In this task you have to follow these steps:

1. Observe each picture.
2. Read the sentences underneath.
3. Judge the acceptability or unacceptability **of each sentence** on a 5-point scale, where 1= unacceptable and 5 = acceptable.
4. There will be some questions not related to Mr. Potato and will come with no pictures. In those cases, answer the same way: acceptable, unacceptable on a 5-point scale.

1.



a. El Sr. Patata tocó los ojos. 1 2 3 4 5
['Mr. Potato touched the eyes']

1 = unacceptable 5 = acceptable

b. El Sr. Patata tocó sus ojos 1 2 3 4 5
['Mr. Potato touched his eyes']

1 = unacceptable 5 = acceptable

2.

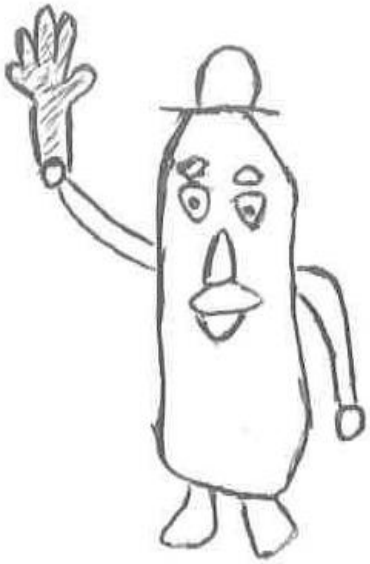
a. Los libros están en la ca 1 2 3 4 5
['The books are in the house']

1 = unacceptability 5 = acceptability

b. Los libros son en la casa 1 2 3 4 5
[‘The books are in the house’]

1 = unacceptability 5 = acceptability

3.



a. El Sr. Patata levantó la mano 1 2 3 4 5
[Mr. Potato raised the hand’]

1 = unacceptable 5 = acceptable

b. El Sr. Patata levantó su mano 1 2 3 4 5
[Mr. Potato raised his hand’]

1 = unacceptable 5 = acceptable

4.

a. Mi mamá es en la tienda 1 2 3 4 5
[‘My mom is in the shop’]

1 = unacceptability 5 = acceptability

b. Mi mamá está en la tienda 1 2 3 4 5
[‘My mom is in the shop’]

1 = unacceptability 5 = acceptability

5.

a. Veranos son calurosos 1 2 3 4 5
[‘Summers are hot’]

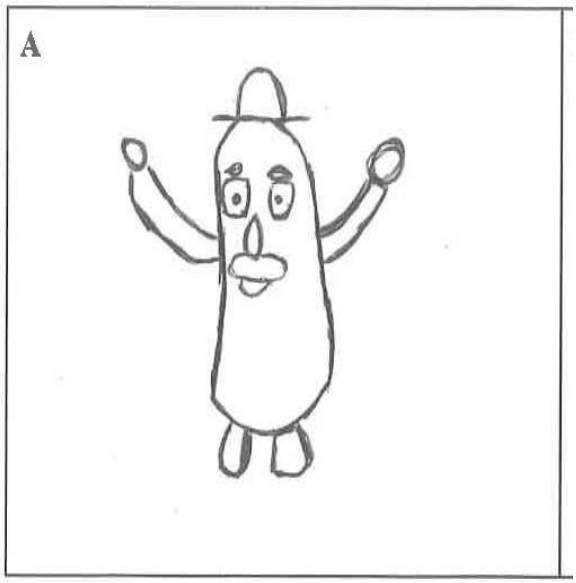
1 = unacceptability 5 = acceptability

b. Los veranos son calurosos 1 2 3 4 5

[‘The summers are hot’]

1 = unacceptability 5 = acceptability

6.



a. El Sr. Patata levantó los brazos. 1 2 3 4 5
[‘Mr. Potato raised the arms’]

1 = unacceptable 5 = acceptable

b. El Sr. Patata levantó sus brazos 1 2 3 4 5
[‘Mr. Potato raised his arms’]

1= unacceptable 5 = acceptable

7.

a. Le vendo un coche a mi primo 1 2 3 4 5
[‘I am selling a car to my cousin’]

1 = unacceptability 5 = acceptability

b. Le vendo mi primo un coche 1 2 3 4 5
[‘I am selling to my cousin a car’]

1 = unacceptability 5 = acceptability

8.

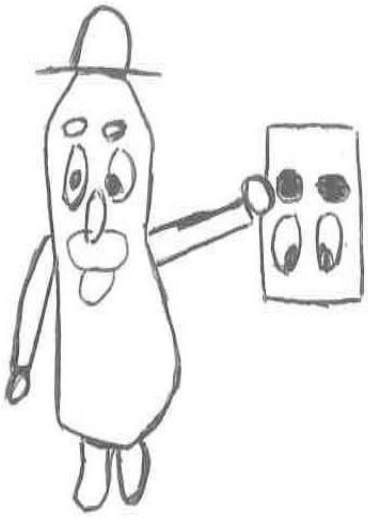
a. La espinaca tiene mucho hierro 1 2 3 4 5
[‘The spinach contains a lot of iron’]

1 = unacceptability 5 = acceptability

b. Espinaca tiene mucho hierro 1 2 3 4 5
[‘Spinach contains a lot of iron’]

1 = unacceptability 5 = acceptability

9.



a. *El Sr. Patata pintó las cejas* 1 2 3 4 5
['Mr. Potato painted the eyebrows']

1 = unacceptable 5 = acceptable

b. *El Sr. Patata pintó sus cejas* 1 2 3 4 5
['Mr. Potato painted his eyebrows']

1= unacceptable 5 = acceptable

10.

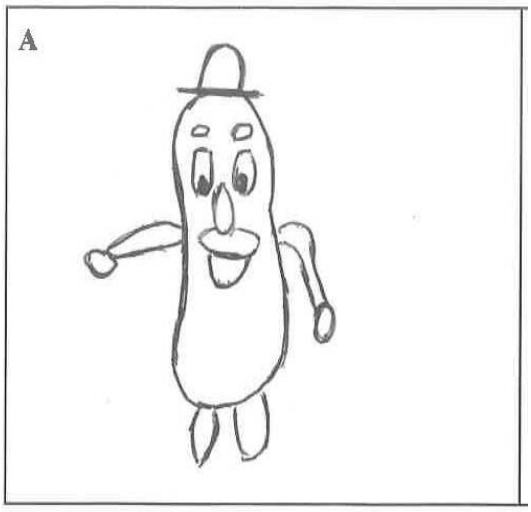
a. *Mi padre está en el parque* 1 2 3 4 5
['My dad is in the park']

1 = unacceptability 5 = acceptability

b. *Mi padre es en el parque* 1 2 3 4 5
['My dad is in the park']

1 = unacceptability 5 = acceptability

11.



a. El Sr. Patata abrió la boca. 1 2 3 4 5
['Mr. Potato opened the mouth']

1 = unacceptable 5 = acceptable

b. El Sr. Patata abrió su boca 1 2 3 4 5
['Mr. Potato opened his mouth']

1 = unacceptable 5 = acceptable

12.

a. Águilas vuelan 1 2 3 4 5
['Eagles fly']

1 = unacceptability 5 = acceptability

b. Las águilas vuelan 1 2 3 4 5
['The eagles fly']

1 = unacceptability 5 = acceptability

13.

a. Le doy abrazos a mi hermano 1 2 3 4 5
['I am giving hugs to my brother']

1 = unacceptability 5 = acceptability

b. Le doy mi hermano abrazos 1 2 3 4 5
['I am giving to my brother hugs']

1 = unacceptability 5 = acceptability

14.

a. El profesor está en la escuela 1 2 3 4 5
[‘The teacher is in the school’]

1 = unacceptability 5 = acceptability

b. El profesor es en la escuela 1 2 3 4 5
[‘The teacher is in the school’]

1 = unacceptability 5 = acceptability

15.

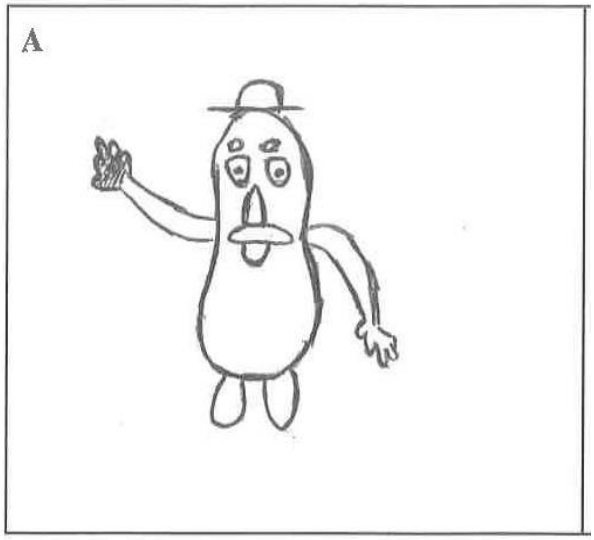
a. Los perros son animales muy leales 1 2 3 4 5
[‘The dogs are very loyal animals’]

1 = unacceptability 5 = acceptability

b. Perros son animales muy leales 1 2 3 4 5
[‘Dogs are very loyal animals’]

1 = unacceptability 5 = acceptability

16.



a. El Sr. Patata levantó la mano. 1 2 3 4 5
[‘Mr. Potato raised the hand’]

1 = unacceptable 5 = acceptable

b. El Sr. Patata levantó su mano. 1 2 3 4 5
[‘Mr. Potato raised his hand’]

1 = unacceptable 5 = acceptable

17.

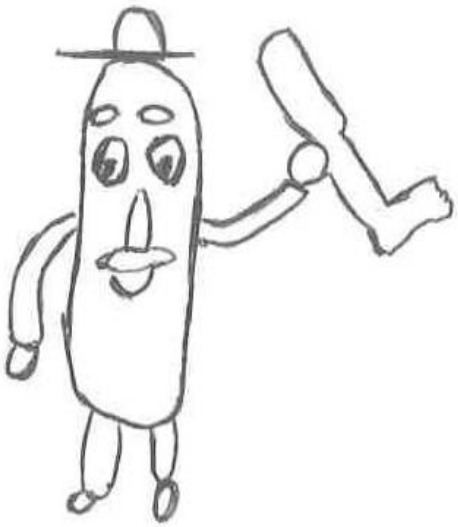
a. Las flores son en el coche 1 2 3 4 5
[‘The flowers are in the car’]

1 = unacceptability 5 = acceptability

b. Las flores están en el coche 1 2 3 4 5
[‘The flowers are in the car’]

1 = unacceptability 5 = acceptability

18.



a. El Sr. Patata levantó la pierna. 1 2 3 4 5
[‘Mr. Potato raised the leg’]

1 = unacceptable 5 = acceptable

b. El Sr. Patata levantó su pierna. 1 2 3 4 5
[‘Mr. Potato raised his leg’]

1= unacceptable 5 = acceptable

19.

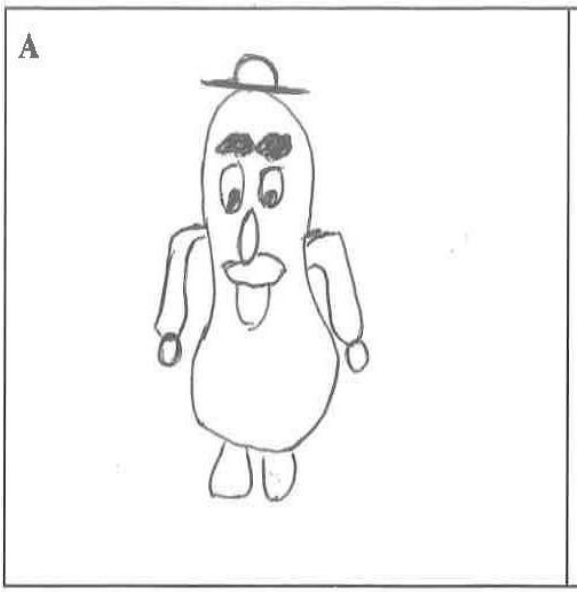
a. Le escribo poemas a mi novia 1 2 3 4 5
[‘I am writing poems to my girlfriend’]

1 = unacceptability 5 = acceptability

b. Le escribo mi novia poemas 1 2 3 4 5
[‘I am writing to my girlfriend poems’]

1 = unacceptability 5 = acceptability

20.



a. El Sr. Patata pintó las cejas 1 2 3 4 5
['Mr. Potato painted the eyebrows']

1 = unacceptable 5 = acceptable

b. El Sr. Patata pintó sus cejas 1 2 3 4 5
['Mr. Potato painted his eyebrows']

1= unacceptable 5 = acceptable

21.

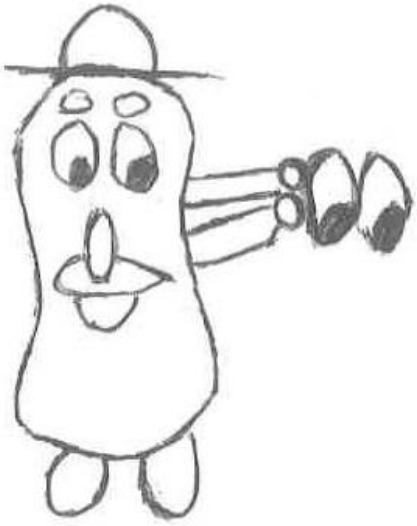
a. Las noches son oscuras 1 2 3 4 5
['The nights are dark']

1 = unacceptability 5 = acceptability

b. Noches son oscuras 1 2 3 4 5
['Nights are dark']

1 = unacceptability 5 = acceptability

22.



a. El Sr. Patata tocó los ojos 1 2 3 4 5
[‘Mr. Potato touched the eyes’]

1 = unacceptable 5 = acceptable

b. El Sr. Patata tocó sus ojos. 1 2 3 4 5
[‘Mr. Potato touched his eyes’]

1 = unacceptable 5 = acceptable

23.

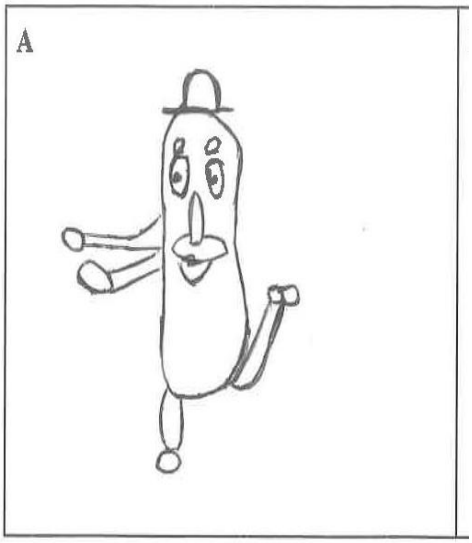
a. Le regalo ropa a mis amigos 1 2 3 4 5
[‘I am giving away clothing to my friends’]

1 = unacceptability 5 = acceptability

b. Le regalo mis amigos ropa 1 2 3 4 5
[‘I am giving away to my friends clothing’]

1 = unacceptability 5 = acceptability

24.



a. El Sr. Patata levantó la pierna 1 2 3 4 5
[‘Mr. Potato raised the leg’]

1 = unacceptable 5 = acceptable

b. El Sr. Patata levantó su pierna 1 2 3 4 5
[‘Mr. Potato raised his leg’]

1 = unacceptable 5 = acceptable

APPENDIX I. Target structures for L2 achievement

Target structures (n =).	**Grammatical and *Ungrammatical Exemplars**
1) Noun / Adjective gender agreement	*No tengo un coche rojo.*
	**No tengo un coche roja.*
2) Subject – Verb agreement	*Ella estudia la lección*
(regular present tense)	* *Ella estudian la lección.*
3) Gustar	*Me gusta la leche*
	**Me gustan la leche*
4) Ser / Estar with professions	*Soy profesor de español*
	**Estoy profesor de español*
5) Reflexive verbs	*Me ducho todos los días*
	**Ducho todos los días*
6) Adjective placement	*Mi amigo tiene una casa bonita*
	**Mi amigo tiene una bonita casa.*

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