

Subjunctive Accuracy and Metalinguistic Knowledge of L2 Learners of Spanish

Maite Correa

(Maite.correa@colostate.edu)

Colorado State University, USA

Abstract

One of the most controversial topics in Applied Linguistics is the role of learners' metalinguistic knowledge (MK) in foreign language acquisition. There seems to be no agreement between those who propose that MK is at least facilitative for learning (Schmidt, 1990; Ellis & Laporte, 1997; Lightbown, 1998; Herdina & Jessner, 2000) and those who believe that it can be detrimental (Felix, 1981; Krashen & Terrell, 1983; Stokes & Krashen, 1990). This paper investigates the relationship between MK (understood as a combination of terminology knowledge and explicit, verbalizable knowledge of grammatical rules) and subjunctive accuracy by learners of Spanish at three levels. MK was assessed through a set of four terminology and grammaticality judgment tasks both in English and Spanish, whereas mastery of the Spanish subjunctive was evaluated through a set of five receptive and productive tasks. Findings include 1) improvements in both subjunctive accuracy in Spanish and MK in Spanish and English across levels, 2) a positive correlation between English MK and Spanish MK, and 3) a positive correlation between MK and accuracy in the use of the subjunctive. These findings show that MK indeed is positively correlated with accuracy in the use of this challenging structure as hypothesized.

1 Introduction and background

Over the past 40 years there has been a considerable amount of research on the effects teaching focus has on second language (L2) learner accuracy. Those instructors who prefer teaching with a focus on meaning are often accused of not emphasizing grammatical accuracy and those who choose to focus on accuracy may be accused of not emphasizing fluency of communication.

The main motivation to support one or the other point of view is closely related to the role that metalinguistic knowledge (MK) is believed to play in language acquisition: those who believe that explicit instruction poses no substantial benefits for L2 acquisition (Felix, 1981; Krashen, 1982; Krashen & Terrell, 1983) support a teaching approach based on fluency and communication, and those who believe that L2 acquisition benefits from some form of explicit instruction (Ellis & Laporte, 1997; Lightbown, 1998; Herdina & Jessner, 2000) support teaching approaches focused on form. Even within the group of explicit instruction supporters there is disagreement: some researchers believe that consciously learned knowledge is valuable for teaching simple and portable structures, but not for complex and abstract ones (Green & Hecht, 1992; DeKeyser, 1995; Krashen, 1982; MacWhinney, 1997), while others believe precisely the opposite (Lightbown, 1998). In the case of Spanish, one example of a "complex" structure is the subjunctive, which has been reported to be one of the most difficult structures to master for second language (L2) learners of Spanish, especially those whose first language (L1) is English (Collentine, 1995; Givón, 1979; Johnston, 1995; Lozano, 1972; Smith, 1980; Terrell, Baycroft & Perrone, 1987).

The effects of formal instruction on subjunctive acquisition are unclear and there remain questions about the effectiveness of different types of instruction (Collentine, 1998; Collentine, Collentine, Clark & Fruginal, 2002; Ellis, Loewen & Erlam, 2006; Farley, 2001; McCollam-Wiebe, 2003; Stokes & Krashen, 1990). Most of the studies that deal with explicit knowledge/instruction and their effect on the acquisition of complex grammatical structures do so through experiments that include pre-tests, treatments, and post-tests. The results and implications derived from these studies vary greatly, since different instructional approaches are favored depending on the researcher, the methodology or the theoretical approach. However, as it will be explained below, some studies dealing with metalinguistic and explicit knowledge and foreign language accuracy without instructional treatment have been published with mixed results.

Alderson, Clapham and Steel's study (1997) correlated linguistic and metalinguistic knowledge with proficiency in French by first-year undergraduate learners of French. The total test battery included: a metalinguistic assessment test, a gap-filling test (Camus), a grammar test (SUCE), a language proficiency test (C-test), a reading comprehension test, a writing test, a words-in-sentence test (MLAT), an inductive language learning test (Swahili), and a biodata cover sheet. They found that the relationship between metalinguistic knowledge and general French language proficiency is weak, the highest correlation being between the metalinguistic total with the grammar test (.34) and with the language proficiency test (.47). As a consequence, they conclude that metalinguistic knowledge and language proficiency appear to constitute two separate factors of linguistic ability and that there is no evidence to support the belief that students with higher levels of metalinguistic knowledge perform better in French, nor that they improve their French proficiency at higher rates than other students. According to them, there is no evidence from this study to justify the teaching of metalinguistic knowledge as a means of improving students' linguistic proficiency. However, as they acknowledge, acquisition of some linguistic items is more amenable to explicit instruction while others are best acquired through naturalistic exposure with no focus on form. This study tests French proficiency in general and it might be that the low correlations have to do with the fact that some non-complex structures can be, in fact, acquired without any exposure to explicit knowledge.

Elder, Davies, Hajek, Manwaring and Warren (1997) replicated Alderson et al.'s (1997) study with three groups of beginning language students (Chinese, Italian and French) with similar results. Participants took four tests of metalinguistic knowledge/language awareness: a metalinguistic knowledge test both in English and French (the same that Alderson et al. developed for their study), a words-in-sentences test (MLAT), and the inductive language learning test (Swahili). The results of this battery of tests were correlated with the class achievement tests and exams administered to students during the first semester of language study combined with a c-test, a multiple choice test of reading comprehension, and an open-ended test of writing ability (all of them also used in Alderson et al.'s study). They found a weak relationship between English grammatical knowledge and foreign language performance at the early stages of learning (between .21 and .56). The authors acknowledge the limitations of this study: the relationship between English metalinguistic knowledge and success in acquiring a language other than English might become stronger as language study progresses, since it might be that at this early stage of learning the features of language being measured are quite trivial.

In an attempt to determine whether students are disadvantaged when they are assumed to possess a working knowledge of terminology before entering the classroom, Jeffries (1985) documented the extent of students' knowledge of traditional English grammar terminology and correlated it with the grade at the end of one term of study of elementary French, German and Spanish for students enrolled at the university level. For this purpose, a test of English grammar terminology (TEGT) requiring students to identify components of sentences and define them was administered and correlated with the following seven variables: grade at the end of their first semester of foreign language learning, ACT composite scores, ACT part scores for the English usage section, total scores on the MLAT short form, part scores on the MLAT short form, number of semesters of previous foreign language study, and previous study experience in the same language for which the

student was currently enrolled. She found that, in the case of French and German, the correlations between TEGT and the end of the semester grades were significantly strong (.55 and .63 respectively) and significantly moderate with Spanish (.36). She also found positive correlations between the TEGT and the other variables considered (between .39 and .60). These results lead her to propose that "those students who begin instruction with some knowledge of formal grammar terms are most likely to perform according to the teacher's expectations" (p. 389) and that this advantage/disadvantage should be taken into consideration when deciding a teaching approach or choosing a specific textbook.

Han and Ellis (1998) examined the relationship between explicit and implicit knowledge and general language proficiency by advanced adult learners of English in the United States (from different backgrounds). The test consisted of five tasks focused on complement clauses in English: 1) an oral production test (OPT), 2) a grammaticality judgment test (GJT) given three times (first two with a time constraint and the last one without it), 3) an interview, 4) the Test of English as a Foreign Language (TOEFL), and 5) the Secondary Level English Proficiency Test (SLEP). The measures resulting from grammar knowledge tests were grouped into a factor analysis that produced two significant factors, one for implicit knowledge and the other one for explicit knowledge. These two were correlated with each other as well as with the two measures of language proficiency (TOEFL and SLEP tests). They found that metalanguage (terminology) plays only an "insignificant role" in general language proficiency (with correlations close to zero). However, they also found that analyzed explicit knowledge (as measured by the delayed GJT) may play a significant role (with correlations above .43). As a consequence, they conclude that "teaching explicit knowledge might more profitably emphasize the development of analyzed knowledge than metalanguage" (Han & Ellis, 1998, p. 19).

Golonka (2006) investigated the range of performance outcomes resulting from study abroad among 22 intermediate learners of Russian. She compared OPI previously recorded interviews with their post immersion OPI tests. The five variables she analyzed were linguistic (grammar, vocabulary, accuracy) and metalinguistic (self-corrected errors and sentence repair). She found that students who were attentive to form and made more self-corrections and sentence repair on the pre-immersion OPI test gained more accuracy than students who were less attentive to form. For example, during the pre-immersion interviews, the null gainers repaired their sentences less than one time, whereas the gainers repaired their sentences 3.6 times on average. The five predictors accounted for 47% of the variance in the post immersion OPI score, which showed that students who demonstrated higher levels of grammatical knowledge before study abroad and who were attentive to form in the [pre-immersion] OPIs were very likely to gain in speaking proficiency during the program, as measured by the [post-immersion] OPIs (p. 502).

Macaro and Masterman (2006) investigated the effect of a grammar course on grammatical knowledge and writing proficiency in French. Participants were first-year students of French at a UK university divided in two groups: an experimental group (N=12) of students who took an intensive grammar course prior to starting their university studies and a control group with no treatment. Participants were tested at three points over five months with a grammaticality judgment task, an error correction and rule explanation task, a translation exercise and a narrative composition. Their results support the claim that explicit instruction does not lead to a significant improvement in grammatical knowledge or gains in accuracy in either translation or composition (p. 318-9) and puts in question the idea that "being taught rules explicitly leads to successful internalization of those rules" (p. 305).

In this study there is no experimental treatment involved and, as a result, teaching methodology is not a variable. Instead of focusing on the learning process and how it can be altered, this study is based specifically on verbalizable MK (understood as the ability demonstrated by participants to identify grammar terminology and ungrammatical sentences, as well as to provide grammar rules) *regardless of their exposure* to explicit/implicit teaching (Han & Ellis, 1998).

The subjunctive was chosen as the target structure for this study because it is known to be problematic and to cause numerous errors for learners in spite of the fact that it is usually intro-

duced in elementary and lower-intermediate textbooks and every subsequent semester up to the advanced level.

The research questions are the following:

1. What is the relationship between English/Spanish learners' metalinguistic knowledge and their accuracy in the use of the subjunctive?

2. How does this relationship differ across the three levels of instruction? How can these results be explained?

2 Procedure

2.1 Participants

The participants for this study were 232 students recruited on a volunteer basis from thirteen 2nd, 3rd, and 4th year Spanish classes at a large university in the Southwest of the US.

2.2 Testing materials

The materials for this study are divided into three parts: 1) A test of general metalinguistic knowledge in English and Spanish, which consists of a) a terminology test (TT) in which grammatical constituents have to be identified, and b) a grammaticality judgment task (GJT) in which participants have to identify ungrammatical sentences and provide corrections and grammar rules; 2) A test of grammatical competence in the subjunctive, which is divided into five different tasks: a) a first forced choice (FC1), b) sentence completion (SC), c) fill in the blank (FB), d) a second forced choice (FC2), and e) open questions (OQ); and 3) a background questionnaire to identify heritage/native speakers of Spanish, elicit demographic data, and other language-related information (experience(s) abroad, other languages spoken, etc). The tasks are described in detail below.

2.2.1 Test of general metalinguistic knowledge in English and Spanish

This test consists of two sections in both English and Spanish: a Terminology Test (TT) and a Grammaticality Judgment Task (GJT).

a. Terminology Test (TT): In order to measure the learners' knowledge of grammar terminology in both English and Spanish, they were presented with ten sentences in English and ten sentences in Spanish and asked to identify and underline a specific grammatical constituent for each sentence that might consist of one or more words (subject, preposition, main verb, etc.).

One point was given if all the required words were underlined; 0.5 points were awarded if only part of the required words were underlined; and zero points were given if no words or any incorrect word(s) were underlined. The maximum score for each section is ten points.

b. Grammaticality Judgment Task (GJT): This task consists of five sentences in English and five sentences in Spanish and it is broken down in three sections: 1) identification of ungrammatical sentences, 2) correction of errors in the case that the sentence is categorized as "ungrammatical," and 3) provision of rules. The reason why the GJT consists of three sections is that, as it has been noted by Ellis et al. (2006), Elder and Manwaring (2004), and Bialystok (1978, p. 37), "overall judgments of grammaticality can often be made implicitly, but *justification* and correction require explicit knowledge" (my emphasis). According to Bialystok (1978), in a GJT, implicit knowledge is used to decide the grammaticality of a sentence, but explicit knowledge is necessary in order to analyze incorrect sentences more in depth and consequently, would be accessed with controlled effort and used in tasks that allow careful planning and monitoring (Han & Ellis, 1998). Both the TT and GJT were used to evaluate the degree of explicit knowledge of the participants. In order to evaluate the provision of rules for ungrammatical sentences, an adaptation of Han and Ellis' (1998) rubric was used (illustrated in Table 1):

Level	Description
3	The learner states a completely correct rule using appropriate technical language “Allow someone to do something. Allow with infinitive with to”.
1.5	The learner states a partially correct rule, or the learner states a correct rule that is imprecise and incomplete but using some technical language “After saw just walk, not to walk, not infinitive. Just simple verb”
0	The learner may be able to identify the sentence as ungrammatical, but (s)he is unable to explain how he/she reaches a judgment or his/her explanation is incorrect and does not contain even very simple technical language “Wait is OK. Waiting is not correct”

Table 1: A scale for rating metalingual comments (Adapted from Han & Ellis, 1998, pp. 11–12)

To determine the reliability of the use of this scale, a second rater was used. The Pearson Product Moment coefficient of reliability for the two raters was .83 for the GJT in English and .92 for the GJT in Spanish.

2.2.2 Test of grammatical competence in the subjunctive

This test was designed to assess the competence of the participants in the use of the subjunctive mood. It is divided in five different tasks: forced choice 1, sentence completion, fill in the blank, forced choice 2, and open questions.

a. Forced choice 1 (FC1): In this task there are ten sentences in which the participants were asked to circle one out of two options provided:

- 1) Tus padres te sugieren que *comes/comas* más tomates

One point was given for each correct answer. If seven or more responses were blank, the task was considered incomplete and it was not included in the analysis. The maximum score was ten points.

b. Fill in the blank (FB): This task consisted of five situations involving a dialogue. The participants were asked to fill in the blanks (a total of ten) with the correct form of the verbs in parentheses:

- 2) En la parada de autobús:

Jaime: ¿Qué hace esa señora corriendo?

María: Ella le _____ (gitar) al conductor del autobús para que no se _____ (ir) sin ella.

One point was given for each correct form of the verb. If the participant used the correct mood but the verb did not agree in person or number and/or was misspelled (“trabejen” instead of “trabaje”, for example), the item was given a score of half a point. Each incorrect (choosing the wrong mood) or blank response received a score of zero. If seven or more responses were blank, the task was considered incomplete and it was not computed. The maximum score for this task was ten points.

c. *Forced choice 2 (FC2)*: This task consisted of five situations, such as the one exemplified in (3) below. The participant was asked to choose the option that best describes the situation (one in the indicative and another in the subjunctive):

- 3) María estaba en el centro comercial con su hijo Juan, pero Juan ha desaparecido y María lo está buscando:
- a) María busca un niño que tiene 12 años.

b) María busca un niño que tenga 12 años.

The situation in (3) describes a mother looking for her son in the mall. The option in the indicative (a) depicts that same situation, whereas the answer in the subjunctive (b) describes a situation in which the mom looks for any child who is that age. One point was given for each correct answer. If four or five responses were blank, the task was considered incomplete and was not computed. The maximum score for this task was five points.

d. *Sentence completion (SC)*: This task included ten sentences to be completed:

- 4) Cuando hace calor, mis amigos y yo...

One point was awarded if the verb’s mood was correctly chosen and it was correctly conjugated; half a point was given if the choice indicative/subjunctive was clear, but the form was still incorrect; and no points were given if the wrong mood was chosen. If seven or more responses were blank, the task was considered incomplete and it was not computed. The maximum score for this task was ten points.

e. *Open questions (OQ)*: This task consisted of five drawings/explanations presenting five different situations (such as the one depicted in Fig. 1). The participants were asked to answer a question related to the drawing with a complete sentence:

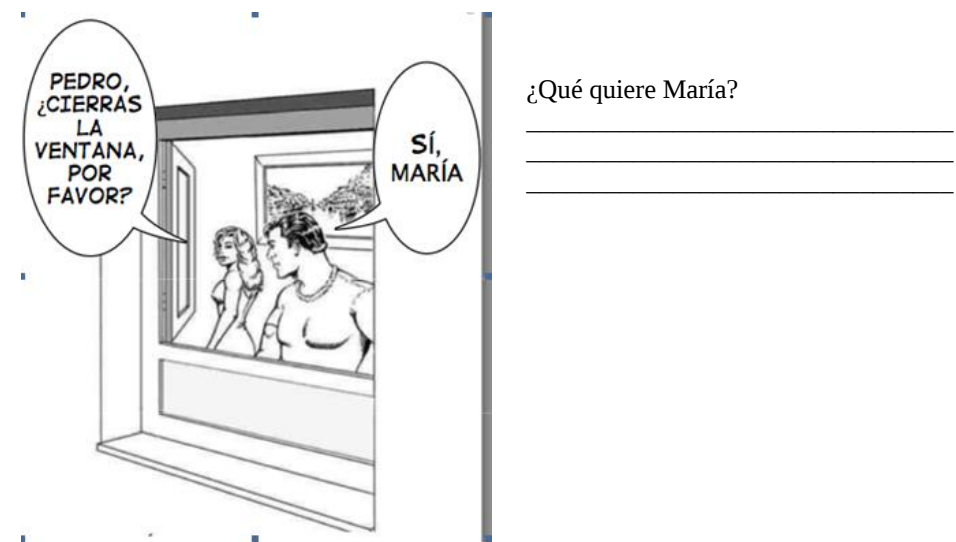


Fig. 1: Example of the open question task (OQ)

Two points were given for each correct answer and one point was awarded for a clear attempt to use the correct mood. If three or more responses were blank, the task was considered incomplete and it was not included in the analysis. The maximum score was ten points.

2.2.3 Background questionnaire

The background questionnaire was designed in order to obtain information on the personal, educational and linguistic background of the participants. This questionnaire served also to identify native/heritage speakers, participants who spent a considerable time in a Spanish speaking country, or participants who also spoke other languages.

2.3 Reduction of data

Factor analysis is a statistical data reduction procedure used to explain variability among variables in terms of fewer unobserved variables called factors. The advantage of using this methodology is that it allows a reduction in the number of variables by combining two or more variables into a single factor. A Principal Component Factor Analysis was performed using all the measures of metalinguistic knowledge (TT in Spanish, TT in English, GJT in Spanish, and GJT in English). To compensate for cases with missing values, a pair-wise deletion of cases with missing values was employed. The factor analysis produced a four-factor solution, but only one factor had an eigenvalue greater than one (2.469), which accounted for a remarkable 61.72% of the variance. This factor had strong loadings for both terminology tests (.818 for English and .819 for Spanish) and sizeable loadings for both provision of rules tests (.774 for English and .728 for Spanish), which means that all tests contributed more or less homogeneously to this factor score. The overall reliability of the metalinguistic knowledge component is a considerable .812.

Four more factor analyses were carried out in order to group data that might share commonalities: 1) Metalinguistic knowledge in English (TTE and GJTE), 2) Metalinguistic knowledge in Spanish (TTS and GJTS), 3) Terminology (TTS and TTE), and 4) Provision of Rules (GJTE and GJTS), all of which were also recorded as new variables.

Additionally, in order to determine an overall score of accuracy in the use of the subjunctive, a Principal Component Factor Analysis was performed using all the measures of accuracy in the use of the subjunctive: forced choice 1 (FC1), fill in the blank (FB), forced choice 2 (FC2), sentence completion (SC), and open questions (OQ). To compensate for cases with missing values, a pair-wise deletion of cases with missing values was employed. The factor analysis produced a four-factor solution, but only one factor had an eigenvalue greater than one (3.378), which accounted for a notable 67.56% of the variance. This factor had strong loadings for all tests (.846 for FC, .855 for FB, .861 for SC, and .890 for OQ) except for the FC2 test, which was sizeable (.630). This means that all tests contributed more or less homogeneously to this factor score. This factor score was recorded as a new variable (called from now on 'Subjunctive Accuracy' or 'S'). The overall reliability of the subjunctive accuracy component is a remarkable .918.

2.4 Treatment design

After getting clearance from the Human Subjects Agency and permission from the Spanish and Portuguese Department Head and each individual course instructor, the researcher visited all the sections personally and asked for volunteers to complete the test during class time. Students were told that the aim of the study was to examine the relationship between the languages they spoke and their use of the language. Those who decided not to participate were asked by their instructor to do an alternate assignment. Students were informed that they would have the entire class period to finish the test (50 minutes), although most students took only between 25 and 35 minutes to complete it (regardless of level).

3 Results

A total of 13 classes participated in the study, with 4 sections from the beginner level (N = 75), 3 sections from the intermediate level (N = 62), and 6 sections from the advanced level (N = 95).

Data from the background questionnaire revealed a total of 53 students classified as heritage (HS) or native speakers (1 beginner, 6 intermediate, and 46 advanced students). Since part of the HSs’ learning experience took place in a completely different environment (Valdés, 2000), they were excluded from the study to be analyzed in another article.

Given the voluntary nature of the test, it was expected that some students would not complete all the tasks. Participants who left 30% or more incomplete were also excluded from the total computation (a total of 2 beginner students). The final total number of participants was reduced to 177 (72 beginner, 56 intermediate, and 49 advanced), 66% of whom were women and the mean age was 21.28 years old, which is typical in terms of the female/male and age distribution in university language courses. Regarding abroad experiences, most of the students who spent more than one month in a Spanish speaking country were at level 3 (73%). In fact, only 28% of students at that level did not have any kind of abroad experience. In addition, the level with the higher number of multilingual participants is level 3. Only those who self-reported a proficiency of 4 or more on a 7-point scale (provided in the background questionnaire) were labeled as multilinguals for demographic information purposes. Languages reported to be spoken were Portuguese, German, Hindi, French, and Russian, among others. This discrepancy in the number of students who went abroad and/or were multilinguals made it impossible to use them as variables in this study.

In order to investigate the relation between metalinguistic knowledge and subjunctive accuracy, the subjunctive accuracy factor score (S) was interrelated to variables regarding metalinguistic knowledge using Pearson Product Moment correlations. The results are shown below in Table 2 (all levels), Table 3 (level 1), Table 4 (level 2), and Table 5 (level 3).

		Subjunctive Accuracy (S)
Metalinguistic Knowledge (MK)	Corr.	.642(**)
	N	134
Terminology (T)	Corr.	.559(**)
	N	134
Provision of Rules (PR)	Corr.	.585(**)
	N	136
MK English (MKE)	Corr.	.522(**)
	N	136
MK Spanish (MKS)	Corr.	.657(**)
	N	134

*** Correlation is significant at the 0.01 level (2-tailed).*

Table 2: Pearson correlation coefficients between measures of metalinguistic knowledge and subjunctive accuracy (All Levels)

		Subjunctive Accuracy (S)
Metalinguistic Knowledge (MK)	Corr.	.408(**)
	N	46
Terminology (T)	Corr.	.366(*)
	N	46
Provision of Rules (PR)	Corr.	.383(**)
	N	46
MK English (MKE)	Corr.	.330(*)
	N	46
MK Spanish (MKS)	Corr.	.439(**)
	N	46

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Table 3: Pearson correlation coefficients between measures of metalinguistic knowledge and subjunctive accuracy (Level 1)

		Subjunctive Accuracy (S)
Metalinguistic Knowledge (MK)	Corr.	.671(**)
	N	40
Terminology (T)	Corr.	.595(**)
	N	40
Provision of Rules (PR)	Corr.	.525(**)
	N	42
MK English (MKE)	Corr.	.495(**)
	N	42
MK Spanish (MKS)	Corr.	.640(**)
	N	40

** Correlation is significant at the 0.01 level (2-tailed).

Table 4: Pearson correlation coefficients between measures of metalinguistic knowledge and subjunctive accuracy (Level 2)

		Subjunctive Accuracy (S)
Metalinguistic Knowledge (MK)	Corr.	.479(**)
	N	48
Terminology (T)	Corr.	.464(**)
	N	48
Provision of Rules (PR)	Corr.	.383(**)
	N	48
MK English (MKE)	Corr.	.326(*)
	N	48
MK Spanish (MKS)	Corr.	.527(**)
	N	48

*** Correlation is significant at the 0.01 level (2-tailed).*

** Correlation is significant at the 0.05 level (2-tailed).*

Table 5: Pearson correlation coefficients between measures of metalinguistic knowledge and subjunctive accuracy (Level 3)

Correlations do not imply causation; however, they show relationships between variables. The Pearson Correlations for all levels presented in Table 2 indicate a large and significant relationship ($p < .01$) between all measures of metalinguistic knowledge and the general subjunctive accuracy score (S) (between .522 and .657). The highest correlations are found between metalinguistic knowledge in Spanish (MKS) and subjunctive accuracy (.657).

Correlations for level 1 are the smallest overall (see Table 3). General Subjunctive Accuracy (S) has at least, medium correlations with all measures of metalinguistic knowledge. The largest correlation indices are those between S and metalinguistic knowledge in Spanish (.439).

Correlations for level 2 are the largest overall (see Table 4), ranging from .495 to .671 Subjunctive accuracy scores strongly correlate with most measures of metalinguistic knowledge (with the exception of MK in English). The general metalinguistic knowledge factor score (MK) seems to share the largest correlation with the subjunctive accuracy scores (.671) followed by the metalinguistic knowledge factor score in Spanish (.640).

Correlations for level 3 (see Table 5) are smaller than those in level 2, but larger than those in level 1, ranging from .326 to .527. The highest correlation with subjunctive accuracy is again general metalinguistic knowledge in Spanish (.527).

In order to investigate the relationship between metalinguistic knowledge in English and metalinguistic knowledge in Spanish, another three correlation analyses were carried out with the following results (Tables 6, 7, 8 and 9):

Metalinguistic Knowledge (MK)	Corr.	.699**
	N	N=174
Terminology (T)	Corr.	.644**
	N	N=175
Provision of Rules (PR)	Corr.	.465**
	N	N=176

*** Correlation is significant at the 0.01 level (2-tailed).*

Table 6: Pearson correlation coefficients between measures of metalinguistic knowledge in English and Spanish (all levels)

Metalinguistic Knowledge (MK)	Corr.	.667**
	N	N=73
Terminology (T)	Corr.	.230
	N	N=73
Provision of Rules (PR)	Corr.	.685**
	N	N=73

*** Correlation is significant at the 0.01 level (2-tailed).*

Table 7: Pearson correlation coefficients between measures of metalinguistic knowledge in English and Spanish (Level 1)

Metalinguistic Knowledge (MK)	Corr.	.658**
	N	N=52
Terminology (T)	Corr.	.555**
	N	N=54
Provision of Rules (PR)	Corr.	.527**
	N	N=53

*** Correlation is significant at the 0.01 level (2-tailed).*

Table 8: Pearson correlation coefficients between measures of metalinguistic knowledge in English and Spanish (Level 2)

Metalinguistic Knowledge (MK)	Corr.	.608**
	N	N=49
Terminology (T)	Corr.	.496**
	N	N=49
Provision of Rules (PR)	Corr.	.376**
	N	N=49

*** Correlation is significant at the 0.01 level (2-tailed).*

Table 9: Pearson correlation coefficients between measures of metalinguistic knowledge in English and Spanish (Level 3)

As shown above, correlations between general metalinguistic knowledge in both languages are largely correlated (between .608 and .669), which indicates that the two measures are related at the three levels of instruction: participants who show MK in Spanish also show MK in English (or vice-versa) regardless of level of instruction. Terminology knowledge in both languages is also largely correlated, except for level 3, in which the correlation is below .400. Provision of rules in English and Spanish, on the other hand, do not show the same degree of correlation as the other two measures (in the case of level 1, results are not even significant).

The correlations across levels show the same pattern for all measures: the correlations between subjunctive accuracy and metalinguistic knowledge seem to be at their highest point at level 2, and they decrease again at level 3. In the case of metalinguistic knowledge, there is a clear and significant relationship between English and Spanish measures for general knowledge and terminology, whereas it is not as clear or significant in the case of provision of rules.

4 Discussion

The correlation analyses carried out show that there is a large and significant relationship between metalinguistic knowledge (MK) and general subjunctive accuracy (S) (.642, $p < .01$), which implies that either those participants with a high metalinguistic knowledge are also more accurate in mood selection or vice-versa.

The highest correlation found for all participants as a group is the one between general subjunctive accuracy (S) and metalinguistic knowledge in Spanish (MKS) (.657), which is consistent with the idea that metalinguistic knowledge and grammatical accuracy are interrelated (Hudson & Walmsley, 2005; Ellis & Laporte, 1997). The correlation between general subjunctive accuracy (S) and metalinguistic knowledge in English (MKE) is also significant (.522), although somewhat weaker. The difference in strength of correlations could be related to the possibility that participants do not transfer as much metalinguistic knowledge from language to language as has been hypothesized (Bloor, 1986), although this hypothesis needs further research.

Level by level, the correlations between the various measures of metalinguistic knowledge and subjunctive accuracy vary considerably. For example, the correlation between the general metalinguistic knowledge score (MK) and the general subjunctive accuracy score (S) is medium for level 1 (.408), large for level 2 (.671), and medium for level 3 (.479). This would support the idea that explicit, verbalizable knowledge is progressively replaced by implicit knowledge: rules are unknown at the beginning (level 1), widely used at an intermediate stage when the structures are not yet mastered (level 2), and they cease to be needed or used when the tasks become automatized (level 3). DeKeyser (2007) proposes three stages of acquisition characterized by:

[...] large differences in the nature of knowledge and its use, as reflected in various forms such as introspection, verbalization, and, most importantly, various aspects of behavior, especially under demanding conditions. Initially a student, learner, apprentice, or trainee may acquire quite a bit of knowledge about a skill without ever trying to use it. That knowledge may be acquired through per-

ceptive observation [...] but most often is transmitted in verbal form [...] and often through a combination of the two, when the “expert” demonstrates the behavior slowly while commenting on the relevant aspects [...] Next comes the stage of acting on this knowledge, turning it into a behavior, turning “knowledge that” into “knowledge how” or, in more technical terms, turning declarative knowledge into procedural knowledge. (p. 98)

It could be the case that after automatization (or proceduralization, in DeKeyser’s terms), verbalizable knowledge becomes inaccessible, or just no longer needed, as well (Robinson, 1996). Figure 2 below shows that subjunctive accuracy scores increase at a higher rate than metalinguistic knowledge scores:

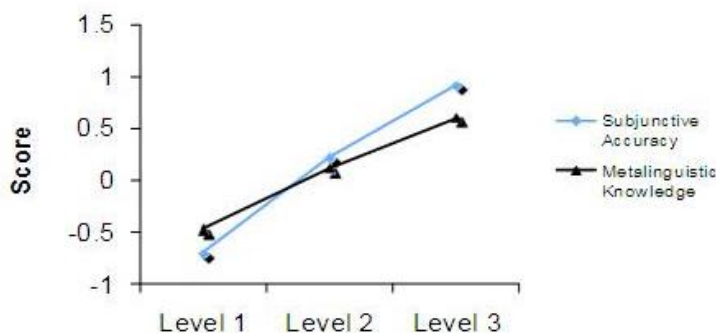


Fig. 2: Comparison of subjunctive accuracy and metalinguistic knowledge factor scores

The highest correlations for level 1 are those between S and metalinguistic knowledge in Spanish (MKS). These correlations could mean that only those who had an extraordinarily high metalinguistic knowledge of Spanish completed the tasks successfully. Given that students begin their Spanish coursework with a knowledge of English grammar rules that is expected to be higher than that of Spanish, the correlations with the various metalinguistic knowledge tasks in English were expected to be smaller at the beginning level, as it is the case (.330 for level 1). For this reason, possessing knowledge of terminology or rules in English at this stage is not related to subjunctive accuracy at this time, although it might be in the long run.

The correlations for level 2 are of a different nature. All metalinguistic knowledge scores are strongly or moderately correlated with the subjunctive accuracy score. This means that students who are more successful in the general use of the subjunctive tend to be more metalinguistically aware than those who experience problems with the subjunctive (or vice-versa, given that correlations do not indicate causation). In fact, the strongest correlation for this level is the one between general subjunctive accuracy (S) and metalinguistic knowledge (MK) (.671) followed by the one between S and MKS (.640).

The correlations for level 3, although significant, are only moderately strong, with the exception of the correlation between general subjunctive accuracy (S) and metalinguistic knowledge in Spanish (MKS), which is large (.527). The slight decrease in the correlation between metalinguistic knowledge and subjunctive accuracy at level 3 supports the idea that:

Metalinguistic knowledge [...] allows learners to monitor the output of linguistic competence and thus increases their production of correct forms [at level 2], the frequency of which may eventually (though indirectly) establish the implicit procedures that will sustain their automatic use [at level 3]. To the extent that there are lacunae in linguistic competence, speakers will rely on metalinguistic knowledge and pragmatics. With increase of proficiency, the use of metalinguistic knowledge is either speeded up or gradually replaced by the use of implicit linguistic competence, hence switching from relying on one set of neural substrates to relying on another. (Paradis, 2006, p. 1)

It is important to notice here that, as Han and Ellis (1998) remark, analyzed knowledge can exist independently of technical language, although it “may be preciser, clearer and better-structured if the learner has access to metalingual terms” (pp. 5-6), as demonstrated by the correlations in level 2.

Formal or explicit grammar instruction is not supported by many second language acquisition theorists who criticize the use of formal grammar instruction in second language classrooms because students who are presented with explicit rules usually lack a sufficient grammar terminology (Krashen, 1982; Omaggio, 1983). However, the correlations between MKS and MKE show that metalinguistic knowledge and terminology seem to be transferred from language to language or, at least, largely correlated at all levels of instruction. Consequently, it would be logical to think that if L2 learners had been exposed to formal grammar in L1 classes, the use of grammar terminology in L2 classes would be an advantage (or at least not an obstacle). Moreover, once basic concepts of general grammar have been learned, it should be easier for students to acquire other foreign languages with less effort (Hudson & Walmsley, 2005).

Although the relationship between English metalinguistic knowledge and accuracy in the use of the subjunctive mood is not as clear as predicted, the results support the claim that metalinguistic awareness could potentially be increased by pointing out similarities between languages. Although the effect of English metalinguistic knowledge is shown to be related with its Spanish counterpart (Table 6), it may only be indirectly correlated with subjunctive accuracy, as shown in Figure 3:

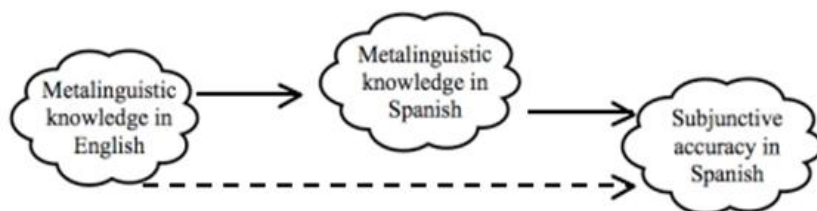


Fig. 3: Role of English metalinguistic knowledge on subjunctive accuracy

Study abroad and knowledge of other languages might play a role in the automatization of subjunctive. However, there is not enough data to investigate their effect on subjunctive accuracy scores. Only 2.43% of the students who spent more than one month abroad were in level 1, compared to 73% of students in level 3. This lack of balance in number of students under both conditions (no experience abroad/more than one month experience abroad) makes it impractical to investigate the effect of this variable in the acquisition of subjunctive accuracy. Speaking other languages is another variable that cannot be accounted for in this study: 58% of the students who self-reported speaking other languages were in level 3, whereas only 20% reported to do so in level 1 and level 2. There is also the possibility that those students who do not do well in Spanish in the beginning levels drop the classes early in their career and only those who enjoy it or experience success major or minor in the language and reach intermediate and advanced levels (Lee & Van-Patten, 2003).

5 Limitations

As with any research project, the present study has several limitations. First, this study elicited only written data. The question of whether this modality affects the results is an appealing one: the less conscious participants are and the less time they have to monitor their output, the more active their implicit knowledge is supposed to be (in opposition to verbalizable, explicit knowledge). Future research could use oral tasks in addition to written tasks to investigate whether the correla-

tions between metalinguistic knowledge and subjunctive accuracy are maintained in different modalities.

Second, due to the standards set forth by the human subjects program, the subjects participated voluntarily and, as a consequence, some of them may have not done their best in completing the tasks and left answers blank. As a result, a substantial amount of answers were not computed. Had it been an obligatory test (required as part of their coursework), any blank item could have been computed as a zero and the results might have been different.

A third limitation is that only the present subjunctive has been tested in order to give the same test across the three levels. It would be interesting to add other tenses within the subjunctive to test for development of tense acquisition within the subjunctive mood. Further research is needed to investigate whether accuracy in the use of other tenses would maintain the same levels of correlation.

A fourth limitation is that the subjunctive is not a monolithic structure (Mikulski, 2006). The use of mood in the three types of subordinate clauses (nominal, adjectival and adverbial) is decided by very different decision-making processes. For practical reasons, the subjunctive is studied as a whole in this experiment, which might have altered the results substantially had the subjunctive mood been tested according to clause type.

In spite of the limitations mentioned above, this study contributes to our understanding of the role that metalinguistic knowledge (both in English and Spanish) plays in the acquisition of mood selection as a whole.

6 Conclusions

This study determines the correlation between metalinguistic knowledge of English grammar, metalinguistic knowledge of Spanish grammar and accuracy in the use of the subjunctive in Spanish by learners at three different levels of proficiency ($N=177$). The three groups of participants were compared with respect to their MK and their mastery of the subjunctive, and it was examined whether MK correlated with mastery of the subjunctive.

Overall, the hypothesis that metalinguistic knowledge is related to subjunctive accuracy is supported. The indices of correlation seem to be at their peak at level 2, and they decrease slightly at level 3 giving support to the idea that metalinguistic knowledge is no longer needed or not so easily accessed when tasks become automatized. In addition, the correlations between subjunctive measures and metalinguistic knowledge measures are higher for Spanish than for English, which suggests that the relationship between English metalinguistic awareness and Spanish subjunctive accuracy is not as straight forward as hypothesized (Fig. 3).

The subjunctive is not as productive in English as it is in Spanish and many times it is redundant (and therefore non-essential for meaning). Thus, it is difficult to imagine that the internally derived hypotheses of the L2 learner are reorganized without any explicit rules or formulas. It looks pertinent, then, to suggest that, in order to acquire these clauses accurately, some focus on form has to be provided, besides comprehensible input. Although, following Han and Ellis (1998) and Berry (2009), there is no evidence in this study to imply that teaching metalinguistic terminology or grammar rules will lead to greater proficiency or even to greater metalinguistic awareness, it seems improbable to think that verbalizable metalinguistic knowledge and terminology can be learned without some form of instruction.

This study does not support the common belief that “any instruction which assumes that students know more than ‘noun’ or ‘verb’ will cause problems for many students” (Alderson et al., 1997, p. 108); even students at the lower level in this study had a mean accuracy of 50% identifying grammatical terms in English and Spanish; it is by providing rules that they really encountered problems. Maybe a more positive attitude towards students’ ability to reflect on the grammaticality of sentences would bring better results in the classroom. After all, it is a combination of both terminology knowledge and familiarity with rules that correlates with a higher accuracy in the use of the subjunctive. As a matter of fact, we should not forget that knowing how to correct an ungram-

matical sentence does not require knowing the rule explicitly, although knowing the rule almost always produces a grammatical sentence as a result (Green & Hecht, 1992).

The claim that learners with explicit knowledge are associated with better performance (Ellis & Laporte, 1997) is supported by the analyses carried out in this study. It has been argued that it is knowledge of rules that is related to performance in L2 and not terminology. Han and Ellis (1998) found that metalanguage plays only an “insignificant role” in general language proficiency. However, the present study suggests the opposite, given that terminology knowledge, especially in combination with provision of rules, strongly correlated with subjunctive accuracy. Thus, although it is perfectly possible for a learner to be able to identify a constituent without knowing the label (which was not part of this study), knowing the label is indeed associated to subjunctive proficiency.

It is important to remark that the metalinguistic knowledge tested in this study was not subjunctive-specific. Actually, none of the rules and grammatical terms tested had any relation with mood selection (with the exception of “antecedent”). This makes the study even more relevant and significant for language teachers: it is students with a high general metalinguistic awareness that are more accurate in the use of the subjunctive.

The results in this study show that explicit, verbalizable grammar knowledge is related to accuracy in the use of a *complex* structure such as the subjunctive, as suggested by Lightbown (1998). Nevertheless, it remains to be seen whether the correlation between metalinguistic knowledge and Spanish accuracy would be larger or smaller with simpler grammatical structures. It is possible that acquisition of some linguistic items is more amenable to explicit instruction while others are best acquired through naturalistic exposure with no focus on form (Alderson et al., 1997).

Teaching approach was not a variable in this study, since it is students’ metalinguistic knowledge that has been tested, and not what they have been taught. It is important to take this into consideration, since it is still possible that what has been taught is not learned and what is learned has not been taught. As MacWhinney (1997, p. 279) noted, “you can lead a horse to water, but you can’t make it drink”, meaning that not all students use the tools provided to them by their teachers. However, knowledge of rules and terminology have been found to be highly correlated, which could be interpreted with the famous Spanish proverb “When the river makes noise, it brings water”.

References

- Alderson, J.C., Clapham, C., & Steel, D. (1997). Metalinguistic knowledge, language aptitude and language proficiency. *Language Teaching Research*, 1(2), 93–121.
- Berry, R. (2009). EFL majors’ knowledge of metalinguistic terminology: A comparative study. *Language Awareness*, 18(2), 113–128.
- Bialystok, E. (1978). A theoretical model of second language learning. *Language Learning*, 28(1), 69–83.
- Bloor, T. (1986). What do language students know about grammar? *British Journal of Language Teaching*, 24(3), 157–160.
- Collentine, J. (1995). The development of complex syntax and mood-selection abilities by intermediate-level learners of Spanish. *Hispania*, 78(1), 122–135.
- Collentine, J. (1998). Processing instruction and the subjunctive. *Hispania*, 81, 576–587.
- Collentine, J., Collentine, K., Clark V., & Frugal, E. (2002). Subjunctive instruction enhanced with syntactic instruction. In J. Lee, K. Geeslin & J.C. Clements (Eds.), *Proceedings of the 4th Hispanic Linguistics Symposium* (pp. 32–45). Somerville, MA: Cascadilla Press.
- DeKeyser, R. (1995). Learning second language grammar rules: An experiment with a miniature linguistic system. *Studies in Second Language Acquisition*, 17, 379–410.
- DeKeyser, R. (2007). Skill Acquisition Theory. In B. VanPatten & J. Williams (Eds.), *Theories in Second Language Acquisition: An Introduction* (pp. 97–113). Mahwah, New Jersey: Lawrence Erlbaum Associates.
- Elder, C., Davies, A., Hajek, J., Manwaring, D., & Warren, J. (1997). Is grammar good for you? The relationship between metalinguistic knowledge and success in studying a language at the university. *Melbourne Papers in Language Testing*, 5(1), 35–55.
- Elder, C., & Manwaring, D. (2004). The relationship between metalinguistic knowledge and learning outcomes among undergraduate students of Chinese. *Language Awareness*, 13(3), 145–162.

- Ellis, N.C., & Laporte, N. (1997). Contexts of acquisition: Effects of formal instruction and naturalistic exposure on second language acquisition. In A. M. B. d. Groot & J. F. Kroll (Eds.), *Tutorials in bilingualism* (pp. 53–83). Mahwah, New Jersey: Lawrence Erlbaum Associates.
- Ellis, R., Loewen, S., & Erlam, R. (2006). Implicit and explicit corrective feedback and the acquisition of L2 grammar. *Studies in Second Language Acquisition*, 28, 339–368.
- Farley, A.P. (2001). Authentic processing instruction and the Spanish subjunctive. *Hispania*, 84(2), 289–299.
- Felix, S.W. (1981). The effect of formal instruction on second language acquisition. *Language Learning*, 31(1), 87–112.
- Givón, T. (1979). *On understanding grammar*. New York: Academic Press.
- Golanka, E.M. (2006). Predictors revised: Linguistic knowledge and metalinguistic awareness in second language gain in Russian. *The Modern Language Journal*, 90(4), 496–505.
- Green, P.S., & Hecht, K. (1992). Implicit and explicit grammar: An empirical study. *Applied Linguistics*, 13(2), 168–184.
- Han, Y., & Ellis, R. (1998). Implicit knowledge, explicit knowledge and general language proficiency. *Language Teaching Research* 2(1), 1–23.
- Herdina, P., & Jessner, U. (2000). The dynamics of third language acquisition. In J. Cenoz & U. Jessner (Eds.) *English in Europe: The acquisition of a third language* (pp. 84–98). Clevedon: Multilingual Matters.
- Hudson, R., & Walmsley, J. (2005). The English patient: English grammar and teaching in the twentieth century. *Journal of Linguistics*, 41(3), 593–622.
- Jeffries, S. (1985). English grammar terminology as an obstacle to second language learning. *The Modern Language Journal*, 69, 385–390.
- Johnston, M. (1995). Stages of acquisition of Spanish as a second language. *Australian Studies in Language Acquisition* 4, 1–28.
- Krashen, S. (1982). *Principles and practice in second language acquisition*. Oxford: Pergamon Press.
- Krashen, S.D., & Terrell, T.D. (1983). *The Natural Approach. Language acquisition in the classroom*. Elmsford, NY: Pergamon Press.
- Lee, J.F., & VanPatten, B. (2003). *Making communicative language teaching happen*. Boston: MacGraw-Hill.
- Lightbown, P.M. (1998). The importance of timing in FonF. In C. Doughty & J. Williams (Eds.), *FonF in classroom second language acquisition* (pp. 177–196). Cambridge: Cambridge University Press.
- Lozano, A.G. (1972). Subjunctives, transformations and features in Spanish. *Hispania*, 55(1), 76–90.
- Macaro, E., & Masterman, L. (2006). Does intensive explicit grammar instruction make all the difference? *Language Teaching Research*, 10(3), 297–327.
- MacWhinney, B. (1997). Implicit and explicit processes. *Studies in Second Language Acquisition*, 19, 277–281.
- McCollam-Wiebe, K. (2003). *The interface between instruction type and learner readiness in the acquisition of Spanish personal 'a' and the subjunctive*. Unpublished doctoral dissertation, University of Illinois at Urbana-Champaign.
- Mikulski, A. (2006). *Native intuitions, foreign struggles? Knowledge of the subjunctive in volitional constructions among heritage and traditional FL learners of Spanish*. Unpublished doctoral dissertation, University of Iowa.
- Omaggio, A. (1983). Methodology in transition: The new focus on proficiency. *Modern Language Journal*, 67, 330–40.
- Paradis, M. (2006). *Implicit competence and explicit knowledge in second language acquisition and learning. The neurocognition of second language*. Retrieved March 9, 2007, from <http://cbcc.georgetown.edu/workshops/Workshop%20talks/Paradis-Long%20Abstract-CBBC%20L2%20Workshop%202006.pdf>
- Robinson, P. (1996). Learning simple and complex second language rules under implicit, incidental, rule-search and instructed conditions. *Studies in Second Language Acquisition*, 18, 27–67.
- Schmidt, R. (1990). The role of consciousness in second language learning. *Applied Linguistics*, 11(2), 129–158.
- Smith, K.L. (1980). *Common errors in the compositions of students of Spanish as a second language* (Unpublished doctoral dissertation). University of Texas at Austin.
- Stokes, J., & Krashen, S. (1990). Some factors in the acquisition of the present subjunctive in Spanish: A re-analysis. *Hispania*, 73, 805–806.
- Terrell, T.D., Baycroft, B., & Perrone, C. (1987). The subjunctive in Spanish interlanguage: Accuracy and comprehensibility. In B. VanPatten, T. Dvorak, J. Lee (Eds.), *Foreign language learning. A research perspective* (pp. 19–32). New York: Newbury House Publishers.

Valdés, G. (2000). *Introduction. Spanish for native speakers. AATSP professional development series handbook for teachers K-16*. New York, NY: Harcourt College Publishers.