

# A pilot study of Japanese speakers learning Spanish: the influence of L3 in their English development

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## 要旨

2011 年 4 月公示された新学習指導要領では公立小学校での英語教育が必修化され、日本の外国語教育においては英語が優勢である。他方ヨーロッパでは個人が複数の言語を習得する「複言語主義」が広まり、英語以外の外国語教育が日本に比べ盛んに行われている。

これまで第二言語（以下 L2）が第三言語（以下 L3）習得に与える影響については Cenoz & Valencia (1994)、Thomas (1988)、Bild & Swain (1989)、Safont Jordà (2005)、Cenoz & Jessner (2000) など論じられてきた。しかし、L3 が L2 に与える影響についてはこれまでに詳細な研究がなされていない。本稿では多くの日本人にとっての L3 であるスペイン語学習が、L2 である英語に与える影響についての実験結果を分析し、英語能力強化のためのスペイン語学習について考察する。

**Keywords:** Spanish as a foreign language, English as a second language, third language influence, language learning in high school, language learning by Japanese speakers

## 1. Introduction

English is recognized as the most studied language in the world, and a large percentage of literature, journals, and articles—especially scientific—are available in English. English is ranked number one in the document entitled ‘The most powerful languages in the world<sup>1</sup>’ that the World Economic Forum issued in 2016. In the ranking forecast for 2050 of the same site, English also appears as number one, which results in its enormous impact on economic, knowledge and media power, and on diplomacy.

It is therefore no wonder that, with regards to foreign language education in Japan, the English dominance movement is increasingly escalating. For example, since April 2011, “Foreign language activities” (essentially English education) at public

1 World Economic Forum “The most powerful languages in the world” <<https://www.weforum.org/agenda/2016/12/these-are-the-most-powerful-languages-in-the-world/>>

elementary schools are compulsory according to the new curriculum guidelines issued by the Ministry of Education, Culture, Sports, Science and Technology of Japan.

In areas other than schools, the situation is also one of English dominance. According to the Ministry of Economy, Trade and Industry survey<sup>2</sup> on specific service industries, in 2005, 91.1% of the 1144 Japanese foreign language conversation schools deal with English courses. The second most handled foreign language is Chinese, with 21.1%. Taking into account the economic, diplomatic and media power of English, the English dominance in Japan is considered something inevitable.

Meanwhile, in 2001, the European Council published the *Common European Framework of Reference for Languages: Learning, teaching, assessment*, where the word plurilingualism stands for “the ability of each individual in multiple languages”. Plurilingualism became a keyword since then (Morizumi, Furuishi *et al.* 2016). According to Sugitani, Takahashi & Ito (2005), plurilingualism means, in an educational setting, that “individuals acquire multiple foreign linguistic abilities, although their operational capabilities and usage areas are different”. Its aim is to diversify the languages that can be used without concentrating on only one foreign language in a globalized society. Plurilingualism and multilingualism became keywords since then. In Europe, where the idea of multilingualism spread widely, foreign language education other than English is being conducted more actively than in Japan. It can be said that globalization is progressing in comparison with Japan, in a situation in which there are no substantial borders among EU member countries. In contrast, the present condition of English dominance in high schools in Japan is the main reason why foreign language education does not spread in this country (Kishida 2016). Considering the flow of multilingualism in Europe, should not education of foreign languages other than English be promoted also in Japan?

In this research we endorse foreign language education other than English, while understanding and acknowledging the flow of English dominance. We will introduce experimental results on the influence of learning Spanish as a third language (L3 hereafter) on English as a second language (L2 hereafter), and claim that Spanish language learning enhances English ability.

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2 Ministry of Economy, Trade and Industry “Survey on specific service industries” <<http://www.meti.go.jp/statistics/tyo/tokusabizi/result-2/h17/pdf/h17-t-27.pdf>>

## 2. Previous research about L3 language acquisition

The L2 of *L2 acquisition* refers to languages learned after the mother tongue, either inside or outside the classroom. In other words, it could also refer to a third or a fourth language. Bilingual Acquisition Research is a field that studies language-learning mechanisms (Ellis 1997). However, Cenoz & Jessner (2000) state that, although multilingual acquisition has many points in common with L2 language acquisition, there are certainly differences due to its complexity and diversity. For example, in L2 acquisition, there are only two patterns: it either occurs after learning the mother tongue, or at the same time as the mother tongue. Regarding L3 or multilingual acquisition, many different patterns may emerge.

Several studies, such as Cenoz & Valencia (1994), Thomas (1988), Bild & Swain (1989), Safont Jordà (2005), Cenoz & Jessner (2000) etc., compared the L3 acquisition of bilinguals with the L2 acquisition of monolinguals. In Cenoz & Valencia (1994), the authors examined the influence of bilingualism on L3 learning in a bilingual community, the Basque Country. The results indicate that bilingualism, as well as several other features (intelligence, motivation, age, etc.), was a good predictor of English achievement. Thomas (1988) compared English-Spanish bilingual college students learning French as L3 with monolinguals of English learning French as L2. The results indicate that bilingual students have an advantage over monolinguals. Besides, the study indicates that if English-Spanish bilinguals have received a formal training of Spanish for more than two years, that may have heightened a metalinguistic conscious awareness, and they show an additional advantage over bilinguals with only an informal instruction of Spanish. Bild & Swain (1989) compared bilingual and unilingual students on French proficiency studying in an English-French bilingual program. The informants were forty-seven students whose first languages are English, Italian, or a non-Romance language. The authors claim that the bilingual informants performed better than unilingual ones on most of the measures. According to their investigations, in most cases, bilingualism has a positive influence in the acquisition of a L3.

All of the above studies refer to the impact of previous bilingualism on the speed and ease of acquisition of a L3. However, we would like to discuss the positive impact that learning a L3 under certain conditions has on the achievement of an L2 which is still in a precarious state and in the process of being acquired. In particular, we would like to explore the positive interference of learning Spanish in the English of Japanese high schools, who must master English as part of their curriculum. To our knowledge,

there are no previous studies on this topic, but there are a couple of works that have discussed the impact of a second or third language on the mother tongue of a speaker. For instance, Rodriguez de Lima (2014) studied the impact of Spanish proficiency on the use of the native language of a group of Japanese native speakers, comparing it with a group of Japanese monolinguals with little or no proficiency in any foreign language. The results show partial differences between the multilingual and the monolingual cohorts. Yamada (2010) also studied the influence of an L2 on her mother tongue and claims that the influence of L2 is seen also in the native language of Japanese native speakers at the pragmatic level. Oiwa (2012), whose main goal was to measure the impact of English reading skills and motivation on the acquisition of French as L3, concludes that it would be interesting to explore whether it is possible to promote learning English by learning a L3. In any case, she does not provide with any concrete research on the matter. This is precisely what we want to explore in this article.

In this study, we will consider the positive influence of L3 Spanish on the acquisition of L2 English when they both happen simultaneously and at a stage in which the L2 has been hardly mastered. In particular, we would like to propose in the future that learning Spanish in intensive courses while a student is still in high school helps that student develop his ability in English, above those classmates who are only exposed to English classes. To our knowledge, this has never been studied with high school students in Japan. Also, there are very few studies on Japanese students who learn Spanish as L3. Therefore, the type of research that we introduce in the present article is innovative and may open future research paths.

### 3. Background to the experiment

It could be argued that the English that most Japanese learn as L2 is difficult for them to master because of the morphological syntactic features that are apparently absent in Japanese; in other words, articles, the singular and plural forms, verb conjugations, etc., are essential features of English grammar that are needed for production. However, they do not appear consistently in the input in a visible way. Take person marking, for example. Person marking is a mechanism that English maintains, but it is only visible in the third person singular of the present form and in auxiliary verbs like *be*. Likewise, number marking exists in English nouns, but does not show overtly in the determiners or adjectives that accompany those nouns. In contrast with this, other Indo-European languages like Spanish, which is the subject of this study, still keep this kind of marking for all persons, tenses, and determiners, as the

Verb	
Spanish	English
estudiar	study
Yo estudio.	I study.
Tú estudias.	You study.
Él estudia.	He studies.
Nosotros estudiamos.	We study.
Vosotros estudiáis.	You study.
Ellos estudian.	They study.

Noun	
Spanish	English
la casa	the house
las casas	the houses

Figure 1. Examples of the morphological differences between Spanish and English

following examples indicate.

We hypothesize that learning Spanish in a way that can help students assimilate these mechanisms effectively could lead to a simultaneous improvement in English, especially in students whose native language lacks these mechanisms visibly, like the Japanese speakers who are the subjects of our experiments. In this regard, it might be pertinent to remember the distinction between language learning and language acquisition that Krashen & Terrell (1983) discussed, leading to a subsequent debate in the literature. Language learning consists in acquiring knowledge *about* languages. On the other hand, language acquisition is knowledge that a speaker obtains without being aware of language rules. The speaker, however, can be aware of errors<sup>3</sup>.

3 In our investigation, we aim to measure whether the students acquire the mechanisms of agreement, definite and indefinite articles, and so on, but we do not know whether this is due to implicit learning of those features in English as a result of explicit learning of the same features in Spanish, or how the mechanism worked. It is impossible for us to distinguish between knowledge acquired or used implicitly or explicitly at this point, since the students take several subjects in Spanish throughout the semester with several methods which include explicit grammar instruction. The implicit/explicit debate exceeds the goals of this paper (see DeKeyser (2003), Ellis ed. (1994), Ellis, N. C. (2011), Ellis, N. C. (2015), Ellis, N. C. (2017), Ellis, R. (2009), among others), and therefore we will only report the progress in the English of our subjects that we observed without speculating whether the knowledge has been acquired implicitly or explicitly.

In this paper, we propose an approach for strengthening English ability / language sense, based on a new viewpoint: through Spanish language learning. This presumably increases the awareness of the learners about features that are relevant for English but that they might have overlooked and/or they might not have understood completely though English grammar explanations. We present the results of a pilot experiment that we have conducted to verify the hypothesis. Our results show improvements in the morphological and syntactic abilities of English, such as reduction of errors in the use of articles and plural in a group of Japanese students who learned Spanish for one semester. This is only a preliminary experiment that has been conducted to test whether the techniques employed are appropriate. Our results indicate that our hypothesis and line of work is promising, and that, whereas further research is needed to prove that Spanish as L3 improves the performance of English as L2 in Japanese speakers, we are on the correct path to finding an innovative solution to the old problem of how to get Japanese speakers to master English while at the same time students are turned into plurilingual persons.

## 4. Experiment

### 4.1 Outline of the Experiment

The informants were 22 first-year students majoring in Spanish and 26 first-year students majoring in Chinese at Kobe City University of Foreign Studies. Both Spanish and Chinese major students are learning each language for at least 9 hours a week (1.5 hours  $\times$  6 subjects). Based on the classification by Muñoz (2012), this amount of instruction is classified as a semi-intensive instruction. This pilot experiment was conducted in two sessions with an interval of about 10 weeks, the first in early May and the second in mid-July. The level of L2 (English) was measured in those two sessions of the experiment, at the beginning of L3 learning and after having learned that L3 for nearly three months. For the analysis, only the results of students who participated in both sessions (21 students of Spanish and 23 students of Chinese) were used. The two groups of students, besides taking the L3 language classes stated above in either Spanish or Chinese, took two periods per week of English classes during those three months, as part of the mandatory curriculum at the university. In the informants we do not include the students whose mother tongue is not Japanese, and the students who are re-taking classes after having failed the previous year.

In the experiment, we presented a 3 minutes video to the informants and then asked them to describe the video freely in writing in as much detail as possible, in

English. They used Word for writing. In order to elicit some errors related to grammatical person, we chose a video with as many diverse characters as possible. Different videos were used in the first and second sessions of the experiment<sup>4</sup>. In the video used in the first session there appear many penguins and its theme is a penguin family's wedding ceremony. The video used in the second session is about a 'smoke seller'. The smoke seller came to a town and cheats people, making them believe that he turns ordinary things into wonderful things, while he is using only smoke; animals such as dogs and cats also appeared. Neither video had narration or dialogue, but they were used with no sound at all, including the music. The informants watched the complete video once. After that, we divided the video in chunks of 1 minute each, showed that minute to the informants and gave them three minutes after each part to write about it in English. Initially, we had planned to do also an oral experiment using the same kind of video, but due to some technical problems, we were unable to collect valid data this time.

#### 4.2 Method of analysis

Experimental data was classified according to the following items:

- Single sentence, complex sentence, incomplete sentence
- Number of words
- Definite articles
- Indefinite articles
- Relative pronoun constructions
- Indefinite pronouns
- Personal pronouns
- Possessive pronouns
- Others: gender, number, tense, other grammar errors, prepositions, vocabulary, word order

Of the above items, we will concentrate on the analysis of the results of number of words, definite articles, indefinite articles, and errors on number, for the purpose of this article.

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4 "Pingu - Pingu at the Wedding Party (HQ)". YouTube. 2013/03/23. <https://www.youtube.com/watch?v=-VlhFGuVfS0> (2018/05/09)  
 "El Vendedor de Humo". YouTube. 2013/01/15. <https://www.youtube.com/watch?v=dwWqMgdde4> (2018/05/09)

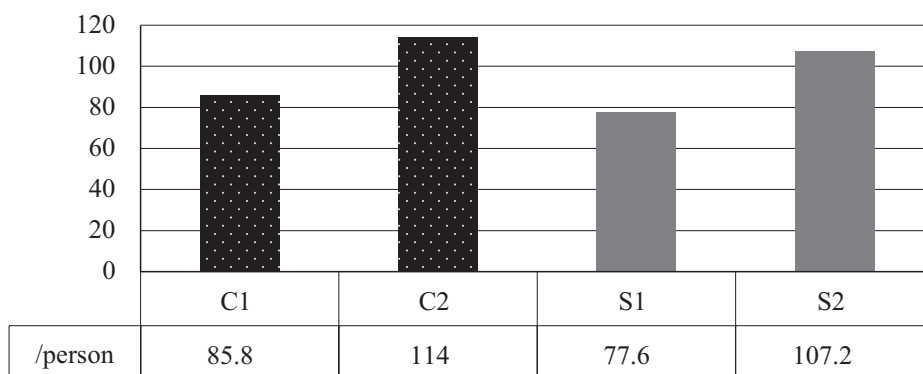


Figure 2. Number of words per person

### 4.3 Experimental results

#### 4.3.1 Number of words

Let us look at the number of words generated per person in each session. In Figure 2, C represents the result of the students majoring in Chinese, whereas S represents the result of the students of the department of Spanish, and the number that ensues refers to the session.

In the first session of the experiment, the Chinese major students used an average of 85.8 words, and the Spanish majors used an average of 77.6 words. In the second session of the experiment, the former generated texts that had 114 words on average, while the latter's compositions were an average of 107.2 words in length. As can be seen in the graph, both Chinese and Spanish major students have used more words in the second session compared with the first (Note: Chinese  $p < 0.05$ , Spanish  $p < 0.01$ ). The rate of increase in word count was almost the same for students of both languages (33% increase in Chinese majors / 38% increase in Spanish majors), and there was no significant difference due to the difference of L3.

Although it is conceivable that the L3 has had an influence in this increase, this is impossible to prove, since both groups have received English classes between the first and second sessions, and therefore an improvement in English is expected.

#### 4.3.2 Definite articles

Here we analyze the total number of definite articles, the percentage of errors in them, and the number of omissions<sup>5</sup> of definite articles. In the total number of definite articles, all definite articles appearing in the data are included, regardless of correct or

<sup>5</sup> In this paper, we will consider omissions those that occur in places in which an article would have been essential.



erroneous use.

According to Shirahata (1988), when native Japanese speakers learn English, their learning order becomes as follows: *be*-verb (copula), progressive form *-ing*, possessive *-s*, *be*-verb (auxiliary verb), plural form *-s*, irregular past, definite article *the*, third person-singular-present *-s*, regular past, indefinite article *a*. The acquisition of articles that we will analyze in this paper is delayed, which shows that it is difficult for native Japanese speakers to acquire articles.

#### 4.3.2a Use of definite articles per person

In the first session of the experiment, students of the Chinese group used an average of 3.8 definite articles per person, whereas students of the Spanish group produced a mean of 4.0 definite articles. In the second session of the experiment, the former used 6.9 definite articles per student, a negligible increase, and the latter 10.1, which shows a definite increase. Both Chinese and Spanish major students used more definite articles in the second session, as can be observed in the graph (Note: Chinese  $p < 0.05$ , Spanish  $p < 0.01$ ). The rate of growth shows that the use among Spanish students increased drastically (a 82% increase among Chinese majors *vs.* a 153% increase in Spanish majors).

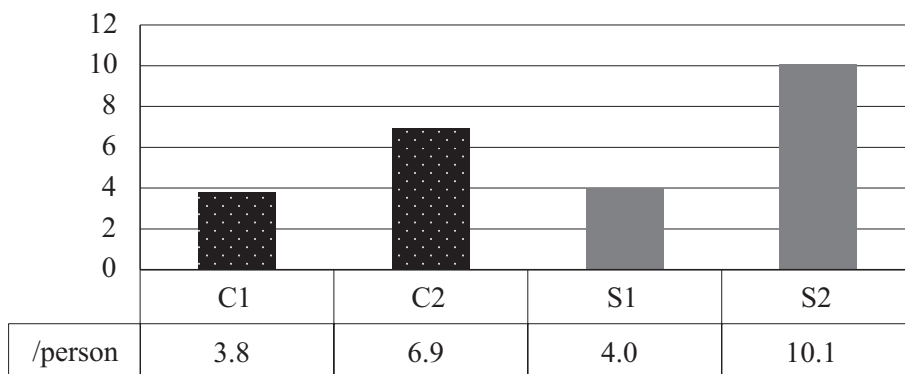


Figure 3. Use of definite articles per person

In Spanish, definite articles or some kind of determiner are not only used with most nouns, but they are also marked for gender and number, which makes students of Spanish very conscious of their presence. We can speculate that this reinforces the mechanism of using determiners, which reflects in their better use of articles in English.

4.3.2b Errors in definite articles

Here we analyze the errors found in definite article use. We consider as errors cases in which the informants use definite articles where they must use indefinite articles, or in which they insert a definite article where it is not needed. In the first session, the percentage of errors in students majoring in Spanish was high, 8.2%; on the other hand, the percentage of errors in students in Chinese was only 2.2%, so the percentage of errors in Spanish students was higher. When the first session was conducted in May, the students of the Spanish department had already been exposed to the difficulties of the use of articles in Spanish and this could be the reason why their percentage of errors was high: students might have been overly concerned about this particular category. As the knowledge of the articles of Spanish was not fully established, excessive attention was paid when they used the articles of English. That could have caused confusion and overcorrection and this could have been the cause of some of the errors.

In the second session, the percentage of errors decreased in both groups of subjects. The percentage decreased from 2.2% to 1.2% among Chinese majors and from 8.2% to 1.4% among Spanish major students. If we follow the above speculation, we can say that at the second session, the understanding of the articles of Spanish had become more stable, and the error rate was drastically reduced. Regarding Chinese students, errors also decreased by almost half, but, as we saw before, the amount of articles used was not as high as in the Spanish group.

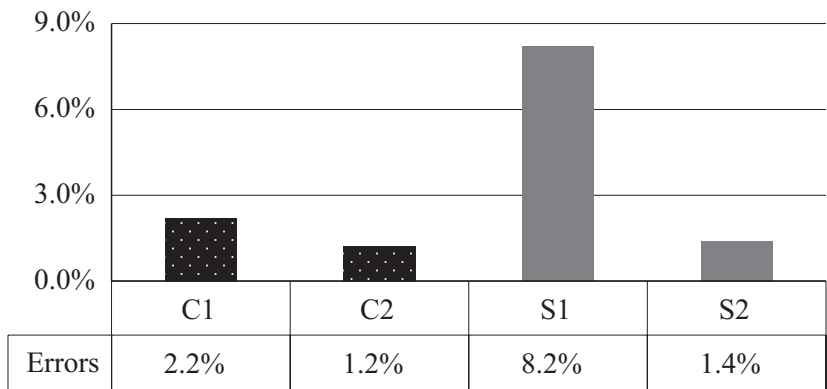


Figure 4. Percentage of errors in definite articles

The following sentences illustrate some of the errors found in the production of both groups of subjects<sup>6</sup> :

- (1) a This may be [the → a] wedding party. (Spanish 1, 6)  
 b And then his dog changes (**in**)to [the → a] big black dog. (Spanish 2, 7)  
 c A man seems to be annoy (ing → ed) by [~~the~~] someone's late arriving. (Chinese 1, 14)  
 d He changed [**the**] child's paper plane (**in**)to [**the**] one which can move itself [...]  
 (Chinese 2, 9)

In this section we have discussed about the errors in definite articles. As we had anticipated, the Spanish major students improved in their correct use of definite articles, more so than Chinese major students.

#### 4.3.2c Omissions of definite articles

In this section, we analyze omissions of definite articles. Omissions here mean a state in which there is no definite article in a place where it is originally necessary.

In the first session of the experiment, there was no difference in the number of omissions of definite articles among students of the Chinese and Spanish majors. However, as you can see clearly on the graph, the number of omissions of definite articles in the results of the Chinese group of students increased in the second session of the experiment (Note:  $p < 0.05$ ), while the number of omissions decreased in the results of Spanish major students (213% increase among Chinese majors *vs.* 33% reduction among Spanish majors). However, even though the tendency is clearly observed, the result of Spanish majors is not significantly different from that of the first session, based on the t-test that we conducted. This might be due to the fact that the numbers are very small to begin with, and an increase or decrease does not lead to statistical significance. However, in the second session of the experiment, according to the t-test, the difference between Chinese students and Spanish students is significant (Note:  $p < 0.05$ ). This means that, considering the results in their entirety, it can be said that learning Spanish as L3 has raised awareness of articles, a category that we do not have in Japanese. This awareness influences the English output, as can be seen in the written exercise that they did for our experiment.

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<sup>6</sup> The words in parentheses are errors other than definite articles. Definite articles in brackets refer to errors of definite articles and right arrows indicate correct use. The words with strikethrough are unnecessary uses. In addition, the bolded words indicate omissions.

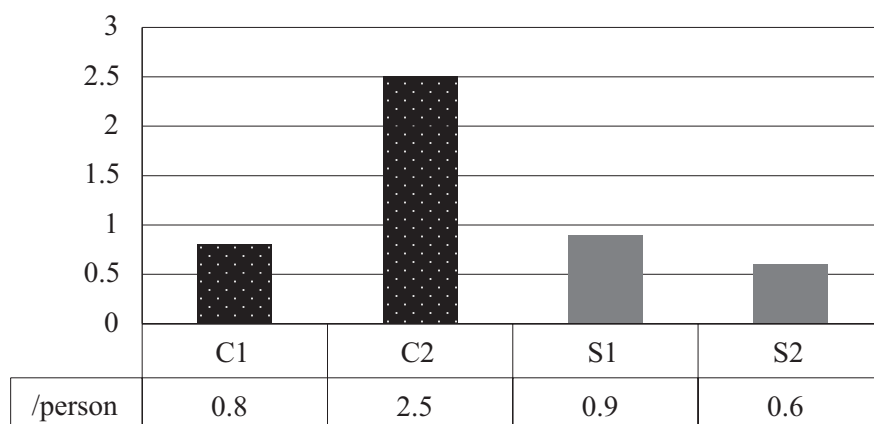


Figure 5. Omissions of definite articles per person

Examples of errors :

- (2) a And **[the]** mother **(is)** (putting → placing) her grandfather on **(a)** chair,  
**(since)** he broke his leg. (Chinese 1, 14)
- b **[The]** priest (looked → looks) confused. (Spanish 1, 2)
- c **[The]** boy's plane returns to **(be)** just a trash [...] (Spanish 2, 7)

In summary, there is a clear difference in the results of the Spanish majors *vs.* the students of the Chinese majors. In Chinese there is nothing equivalent to definite articles, which indicates that the improvement in the case of the Spanish students can be attributed entirely to the knowledge they have acquired while learning this language as L3.

#### 4.3.3 Indefinite articles

Here we analyze the total number of indefinite articles, the percentage of errors in them, and the number of omissions of indefinite articles. As in the analysis of definite articles, the total number of indefinite articles includes all indefinite articles that were generated, regardless of correct or erroneous use.

##### 4.3.3a Use of indefinite articles per person

First, we analyze only the total number of indefinite articles. In the first session of the experiment, it can be seen that the informants of the Chinese group used more

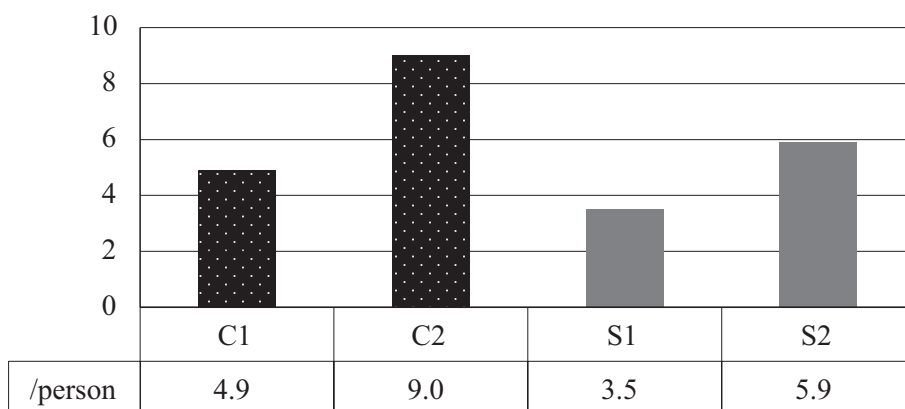


Figure 6. Use of indefinite articles per person

indefinite articles than those of the Spanish one. Chinese major students produce an average of 4.9 indefinite articles per person, whereas Spanish majors generate an indefinite article about 3.5 times. The use of indefinite articles increased in the second session of the experiment on the students of both languages (Note: Chinese  $p < 0.01$ , Spanish  $p < 0.03$ ). In comparison with Spanish students, Chinese students used more indefinite articles in the second session of the experiment (84% increase among Chinese majors vs. 69% increase among Spanish majors).

Although Chinese has no articles as well as Japanese, there are things that work similarly to indefinite articles such as the numeral “个”. It is possible to speculate that through learning such expressions in Chinese, the awareness of indefinite articles in English was strengthened. In the Spanish group, however, perhaps the higher use of definite articles made the use of indefinites less necessary. It may be the case too that the enormous variety of indefinite determiners in Spanish makes it a feature to be mastered at a later stage.

#### 4.3.3b Errors in indefinite articles

As we saw in 4.3.3a, it was found that the increase of the use of indefinite articles of the students in the Chinese group in the second session of the experiment was bigger than that of the students of the Spanish major, but as for the errors, the percentage has increased greatly only in that group of subjects (Note:  $p < 0.03$ ).

In the first session of the experiment, the percentage of errors was higher in the results of the students of the Spanish major, despite its lesser use. However, in the second session of the experiment, we can see that the error rate decreases (0.1%

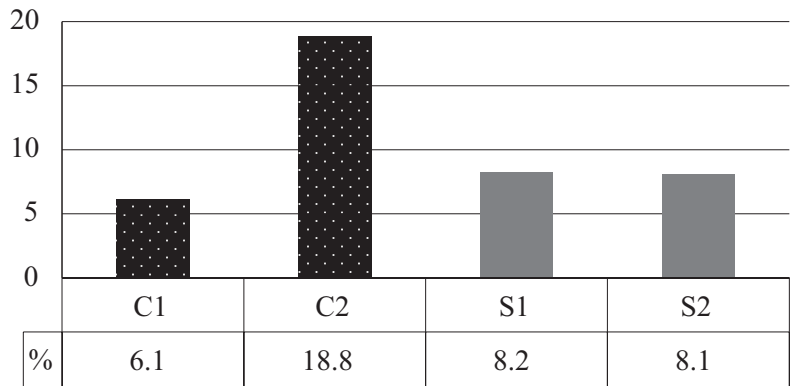


Figure 7. Percentage of errors in indefinite articles

decrease) even though the use of indefinite articles has increased. On the other hand, in the production of Chinese majors, the error rate increased significantly (12.7% increase).

Examples of errors:

- (3) a At [a] ten o'clock [...] (Chinese 1, 20)
- b In (**the**) final scene, a[n]animal carrying a camera appear(s). (Spanish 1, 21)
- c Then man changed a[n]angry man's dog. (Chinese 2, 1)
- d And then [a → the] dog (become → became) bigger than before. (Spanish 2, 14)

As already mentioned in the previous section, there are morphemes in Chinese that have a role close to indefinite articles. As a result, the awareness of indefinite articles in English might have been strengthened. At the same time, however, confusion occurred when the informants applied that knowledge to indefinite articles in English, and errors related to indefinite articles greatly increased in the result of Chinese major students.

#### 4.3.3c Omissions of indefinite articles

Here we will look at the results of omission of necessary indefinite articles. On the first and second sessions of the experiment, more omissions were found in the results of students in both languages compared to the results of definite articles. More omissions were observed from the results of students in the Spanish major group, but the difference between the two sessions is not high and according to the t-test, the difference is not significant (Note:  $p > 0.75$ ). Looking at the results of the second

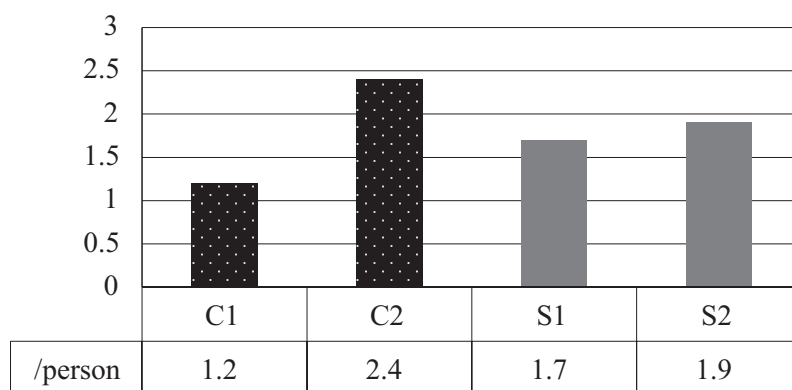


Figure 8. Omissions of indefinite articles per person

session of the experiment, the number of careless omissions has increased more among the Chinese majors (a 100% increase in Chinese majors *vs.* a 12% increase in Spanish majors). We ran a simple t-test on the results, to compare the increase in the first and second session of the Chinese majors and the results were significant (Note:  $p < 0.02$ ). Actually, according to the t-test, the difference between the result of Chinese majors and Spanish majors was not significant (Note:  $p > 0.45$ ).

Examples of errors:

- (4) a [A] Baby was born from an egg. (Spanish 1, 22)  
 b The dog became [a] strong, big and cool dog. (Chinese 2, 1)  
 c It seems like [a] party. (Chinese 1, 1)  
 d He changed [a] wood (**stick**) (**in**)to [an] airplane. (Spanish 2, 2)

As seen in the results of the previous section, there was no obvious improvement from the result on the omission of indefinite articles. This is because, as we stated above, the use of the indefinite articles is more ambiguous in its function than that of the definite articles in Spanish, and at this basic stage they are rarely explained in class. Nishikawa (2006) mentions that, compared to the relative easiness with which the basic knowledge of the definite articles is acquired, even the simple use of indefinite articles and non-articles is difficult for Japanese students.

#### 4.3.4 Errors on number

Now we will focus on some of the errors of the grammatical feature of number found throughout the compiled essays of the informants. The students of Chinese not

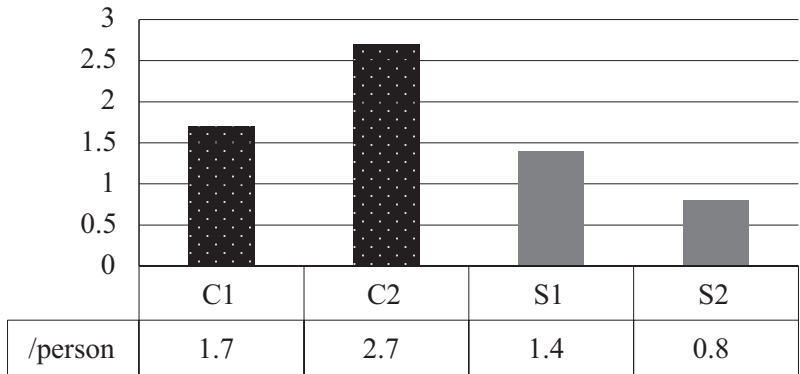


Figure 9. Errors on number per person

only made more errors than the Spanish language learners, but during the second test they increased the number of failures. The errors made by Spanish learners, on the other hand, decreased. According to the t-test, the difference is significant (Note:  $p < 0.03$ ).

Examples of errors:

- (4) a A [seals] broke the camera [...](Chinese 1, 5)
- b One of those penguin[s] look[s] at the ice at 10 o'clock.(Chinese 1, 26)
- c A big dog [try → tries] to catch it.(Chinese 2, 10)
- d A boy [have → has] a (wodden → wood) stick and [...](Chinese 2, 20)
- e The old penguin [are → is] talking about his injured leg.(Spanish 1, 7)
- f One camera break[s] down.(Spanish 1, 14)

As we had anticipated before the experiment, the Spanish major students improved their performance on the number of English, presumably through Spanish learning.

5. Discussion of the Experiment

In this pilot investigation, we tried to analyze the influence of Spanish language learning on English ability from a morphological and syntactic point of view. In terms of definite articles, its use increased in the results of students in both languages, but the percentage of errors in students majoring in Spanish greatly decreased and unnecessary omissions were also reduced compared to students majoring in Chinese. Among the three elements that we analyzed in this article, the positive influence of learning Spanish as L3 has most prominently appeared in the comprehension of definite articles.



Regarding indefinite articles, both errors and omissions showed a tendency to increase in the production of students in both languages, but Spanish students showed a low increase in number, compared with the results of Chinese students. We must point out that there is a major syntactic difference between the so-called definite and indefinite articles. In fact, only the definite article can be accurately called an article, whereas the indefinite is better seen as a quantifier. According to Whitman (1974), the article has two roles, Quantity and Determiner. Quantity has a role to represent numbers, and Determiner has a role to point to a specific target, and the indefinite articles correspond to the former. That is, the grammatical features of indefinite articles are slightly different from those of definite articles. From this point of view, it can be understood from the results of this experiment that differences also arise in the mechanism of acquisition of definite articles and indefinite articles. From now on, detailed studies on comprehension and acquisition of indefinite articles that could not be expected to improve sufficiently by learning Spanish will be necessary.

Although the positive influence by Spanish language learning is not conspicuous in the results concerning indefinite articles, it is certain that the difference of L3 appears in the results. The data on the use of indefinite articles suggest that L3 learning itself not only in Spanish—where the morphologically syntactic features are more prominent than in English—but also in Chinese would promote awareness and understanding of English as L2.

From the results of the experiment, it can be said that Spanish learning as L3 leads to strengthening some of the syntactic characteristics of English that are necessary for a good production in that language. However, admittedly, since learning the L3 had started before the first session of the experiment was conducted, and English learning continued in the interval between the two sessions, it is difficult to establish accurately the extent of the influence of learning L3 using only the results of this experiment.

## 6. General Discussion

In this paper, we examined through a pilot experiment how the learning of Spanish as L3 affects English proficiency as L2. In the experiment, the English ability of Spanish major students and Chinese major students was compared by a test consisting of writing a story. As a result of analyzing the number of the definite and indefinite articles, the percentage of its errors, the number of its omissions, and the percentage of the errors on number, more positive influence was observed in Spanish major students compared to Chinese major students.

The results of the experiment showed a tendency to improve the morphological and syntactic understanding of English as L2 by learning Spanish as L3. In this experiment, we focused on only the number of used words, definite articles and indefinite articles, and the errors on number, as syntactic features that require a considerable marking in Spanish but which are poorly marked in English. Spanish learning seemed to exert a positive effect on improving English proficiency in this kind of structural features. Different results could be obtained by analyzing other grammatical items or with other techniques.

Spanish may not be the only foreign language that has a positive impact on the proficiency of English as L2. Also, the positive influence on English as L2 is not the only reason why we promote the education of a second foreign language in high school. As Takeda (2014) states, cultural understanding aspects are often emphasized while learning foreign languages other than English is discussed in Japan. However, the results discussed in this paper point at a powerful cognitive reason why L3 learning should be emphasized while students are in high school: it could be a novel but powerful tool in helping achieve the goal that the Ministry of Education has set for Japanese citizens: mastering English.

In the future, we would like to run experiments using other techniques, for example, gathering oral performance data, cloze tests and so on, especially with informants from intensive Spanish courses geared towards high school students. We also would like to cooperate with experts of other foreign languages and conduct a wide-range research on the influence of L3 on English as L2.

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