

# A study of integrating discourse-context information into Spanish aspect grammatical teaching for Sinophone learners

SUN, YULIANG

*Soochow University*

QI, ZHONGCHEN<sup>1</sup>

*Zhejiang International Studies University*

LOURDES DÍAZ RODRÍGUEZ

*Universitat Pompeu Fabra and Clic-Universitat de Barcelona*

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**ABSTRACT:** This work explores and evaluates the effect of teaching the Spanish past tense aspect (indefinite preterit and imperfective preterit) to Chinese learners in a discourse context compared with the traditional teaching of grammar. We postulate that this teaching methodology—which integrates the content of traditional grammar programs with implicit and explicit instruction on how to interpret discourse-contextual information—will be more effective for Spanish L2 learning in the Chinese university context. In order to test the effect, we conducted a study with two groups of students under two different conditions. The experimental group contained 18 subjects, and the control group, which was taught in a traditional grammar program, contained 17 subjects. Using a teaching experiment that involved three online video-based grammar classes and the gathering of students' data from pre- and post-tests consisting of comprehension task and multiple-choice tasks, we observed that the instruction of how to interpret aspectual information in a discourse context improved the learners' ability to analyse and comprehend the target grammar point. However, the learners did not show more accuracy in their use of stative verbs in the post-test than that in the pre-test. **Keywords:** Spanish past tense aspect, grammar teaching, discourse context, comprehension, production.

**Estudio sobre la integración de información discursivo-contextual en la enseñanza gramatical del aspecto de español para sinohablantes.**

**RESUMEN:** Este trabajo explora y evalúa el efecto de la enseñanza del aspecto del tiempo pasado del español a aprendices sinohablantes en el contexto del discurso en comparación con la enseñanza tradicional. Postulamos que esta metodología, que integra los contenidos de los programas de gramática tradicional con instrucciones implícitas y explícitas sobre

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<sup>1</sup> Corresponding author: Qi, Zhongchen, School of European Languages and Cultures, Zhejiang International Studies University, No. 299 Liuhe Road, Hangzhou, China. Email: [zc.qi@hotmail.com](mailto:zc.qi@hotmail.com). This research was funded by National Social Science Foundation of China (20CYY001).

cómo interpretar la información discursiva, es más efectiva en el contexto universitario chino para el aprendizaje de la L2 español. Para probar su efecto, realizamos un estudio con dos grupos de estudiantes de la misma universidad. El grupo experimental consta de 18 sujetos y el grupo de control, que se enseñó en el programa de gramática tradicional, de 17 sujetos. Mediante un experimento de enseñanza que consistió en tres clases basadas en videos y en la recopilación de datos de los estudiantes de pre-test y post-test, que consistieron en una tarea de comprensión y una de opción múltiple, observamos que la instrucción de cómo interpretar información aspectual en el contexto del discurso puede mejorar la capacidad de nuestros alumnos en el análisis y comprensión de la gramática objetiva. Sin embargo, los alumnos no muestran una mayor precisión en su uso de verbos estativos en el post-test.

**Palabras clave:** Aspecto del tiempo pasado de español, enseñanza de gramática, contexto discursivo, comprensión, producción.

## 1. INTRODUCTION

As there are significant differences between Mandarin Chinese and Western languages, such as English, Spanish, or French, little of the acquired grammatical knowledge in the mother tongue (L1) of sinophone learners can be transferred or applied directly to the grammatical system of a target language (L2/L3). These learners may feel that their grammatical intuitions about a particular L2 (such as Spanish) are less informative than those of other learners whose L1s are typologically closer. As a result, sinophone learners of foreign languages at all levels of competence often get stuck wondering about the correct grammatical forms of verbs in a given context, the right prepositions, or the need for an article in certain sentences. To add even more difficulty to their situation, sometimes teachers can give direct answers to questions about grammatical rules, but in other cases they point learners towards specific contextual information in discourse as the key issue that should be considered when deciding which is the most appropriate grammatical form. Moreover, in Chinese foreign language classrooms great attention is paid to the teaching of grammatical rules and their functions, even though studies in recent years have suggested that the environment or discourse-context information should be integrated in grammar teaching (Feng & Shi, 2011; Larsen-Freeman, 2014; Zheng, 2019). This suggests that for both teachers and students, the integration of contextual information and discourse in grammar teaching and learning could be a challenging but ultimately more fruitful task than the plain teaching of grammar forms and rules.

This paper focuses on a single but complex grammar issue and its methodological options for the classroom. In particular, it explores the effects of a video-based methodology integrating instruction of the Spanish past tense aspect in discourse-context information for sinophone learners. The aim of this paper is to explore and develop an effective teaching methodology, and evaluate the effects of this teaching intervention on our participants' comprehension and production of the Spanish past tense aspect.

## 2. LITERATURE REVIEW

### 2.1. Discourse-contextual information in grammar teaching

In recent years, both scholars and institutions have taken notice of the importance of integrating discourse-contextual information in grammar teaching. According to complex

dynamic systems theory (CDST), the environment integrates and interacts with learners' language emergence (Larsen-Freeman, 2016; Mercer, 2018). Regarding discourse-context information, Zheng (2019) indicates that the context of the learners' experience determines their acquisition of language. These varied experiences could be offered by different approaches in the target language or the mother tongue of the learners; Jessner (2018) and Jessner and Cenoz (2019) note that metalinguistic awareness helps learners to learn language both through and with their knowledge in other languages. In terms of institutions, the outline of the curricular plan of the Cervantes Institute (PCIC) consists of sections such as grammar, functions, pragmatic strategies, and so on.

Along the same lines, Feng and Shi (2011) proposed an integrated grammar teaching system for the teaching of Mandarin Chinese as a foreign language, called the "Trinitarian Grammar". According to this system, grammar teaching activities consist of three parts: the form or structure; the function; and the discourse-context. These authors emphasized that grammar teaching should focus on cultivating the ability of learners to match a grammatical form with its function or meaning in a discourse context. Subsequent studies based on this same line of reasoning have explored practical methodologies, or have summarized previous experience in integrating the instruction of typical discourse-contextual cases, either as a trigger or as a medium, with grammar teaching in order to help learners with the comprehension of grammatical rules (Tian, 2020; Wang, 2021; etc.). However, as far as we know, the effects of these teaching methods still require empirical analyses. In particular, the extent to which these teaching methods improve students' comprehension and L2 production is something that needs to be established in order to go further in the implementation of this new methodology.

Several studies have discussed approaches that create experiences of context in classroom teaching from different perspectives. Among these, multimodal learning stands out, proposing that learning environments potentially contain different models aiming to represent knowledge (Paivio, 1986; Mayer & Moreno, 2003; Moreno & Mayer, 2007). In multimodal contexts information is processed simultaneously by separate channels, namely the auditory/verbal channel and the visual/pictorial channel. This dual-channel processing system is thought to be more efficient than a single-channel form of language learning because meaningful learning requires cognitive processing over different channels, and multimodal learning could offer a more abundant discourse-context information (Moreno & Mayer, 1999; Mayer & Moreno, 2003).

Another difficulty in aiming to create experiences of context lies in the preparation and compilation of teaching materials. Gergross, Puchta, and Thornbury (2006) indicate in the introduction of their grammar textbook *Teaching Grammar Creatively* that grammar learning is an awareness-raising process. Díaz and Yagüe (2015) draw a similar conclusion in their compilatory Spanish Grammar textbooks for L2 learners, *MarcoELE's PapELEs* and *eleFANTE*. These authors emphasize a cognitive approach and multimodality through the use of materials for a visual channel, utilizing language and images, both individual images and continuous scenes, alongside the (metalinguistic) instruction of grammatical rules. Díaz and Yagüe postulate that the different sourcing and encoding of these differently processable visual materials favor the process of transforming abstract grammatical rules "externally" delivered by the visual channel into "internally" observable realities that are anchored to the learner's own experience.

In summary, second language acquisition is a complex developmental process in which factors from lexical, grammatical, and discourse contextual levels interact and are integrated. However, in the everyday foreign language classroom it is not always easy to find textbooks or online materials that offer discourse-contextual information, whether digital or picture-based, for the teaching of grammatical rules. We can easily determine that teaching the difference between apple and banana is an easy task, since instructors can find photos of these two fruits by a simple search. However, if the instructor needs to explain the difference between John ate an apple and John was eating an apple, the preparation of materials will be a more significant challenge if there are no appropriate published materials available. Facing this real difficulty as foreign language teachers ourselves, we believe that it remains an issue as to how to motivate and consolidate learners' capacities during grammar teaching, leading to the creation and representation of discourse-contextual meaning, such as images or animation scenes, based on their potential comprehension of the discourse-contextual information from a verbal channel and their experience or knowledge in real life. This multimodal approach will offer more than one option to represent students' plausible hypotheses, allowing them to autonomously find their path.

## **2.2. Contrastive analysis of grammatical aspect: Spanish and Mandarin Chinese**

In this work, we focus on the teaching of the Spanish past tense aspect for sinophone learners. Comrie (1976) indicates that aspect represents different perspectives with which to observe whether an event or state is described as an ongoing or a completed one. This implies that the information transmitted by aspect, like a scene in a film, possesses discourse-contextual properties. The speaker is the director of this film, and his/her choice between perfective and imperfective aspect determines the extent of the scene. In the scene s/he presents the whole process of an event or states containing its terminal point, or only shows a segment to his/her listener(s), whose role is similar to the audience of the film. As we know, in a film the extent of a scene does not depend on whether the event or state is completed, but on what the director would like to show to the audience, and on whether the scene is adherent and coherent with the preceding and subsequent scenes. Therefore, in the discourse of linguistics this metaphor suggests that the use of the perfective or imperfective aspect is not a true-or-false problem for grammatical rules, but an adherent and coherent problem in the discourse context.

Grammatically, it is obvious that there are enormous differences between the aspectual systems in Spanish and Mandarin Chinese. From the perspective of grammatical form and structure, in the Spanish past tense the indefinite preterit (*pretérito indefinido*, PIN) and the imperfect preterit (*pretérito imperfecto*, PIM) correspond, respectively, to the perfective and imperfective aspects (Rojo, 1990). In Chinese Mandarin, however, aspectual information is conveyed at the grammatical level by aspect markers. According to Xiao and McEnery (2004) and Chu (2006), “-le” in Chinese is considered a perfective marker, while “-zai-” and “-zhe” are imperfective markers. In addition, Smith (1997) and Xiao and McEnery (2004) proposed that in Chinese there exists a null aspectual form at the grammatical level: the zero marker. In this case, one should rely on the discourse-context to interpret the aspectual information of verbs.

With regard to the usage rules of the Chinese and Spanish aspects, factors from lexical semantics should also be considered. In Spanish, PIN and PIM are able to associate with all the four categories of verbs under Vendler's (1967) classification—that is, states, activities, accomplishments, and achievements<sup>2</sup>. In cases of non-prototypical associations, the coercion mechanism (De Swart, 1998) can force the reinterpretation of internal lexical semantics through the suppression of information from a discourse-context, so that the meaning at the lexical level matches the aspectual form at the grammatical level. In Mandarin Chinese the application of aspect markers is restricted depending on the inherent properties of verbs. Dynamic verbs in Chinese can associate with both perfective markers and imperfective markers, but stative verbs generally only appear in the zero-marker form (Smith, 1997; Xiao & McEnery, 2004).

As mentioned above, the appropriate use of Spanish PIN and PIM demands the analysis and integration of information at the lexical, grammatical, and contextual levels. However, the differences in the aspectual system between Spanish and Mandarin Chinese make the comprehension and production of PIN and PIM a challenge. Moreover, in traditional grammar teaching more attention is paid to grammatical rules and their function, rather than to instruction in how to process discourse-context information and how to coordinate it with information provided in a broader context. For example, in the Spanish textbook used in China's universities, *Modern Spanish*<sup>3</sup>, PIN and PIM are key topics from Unit 1 to Unit 6 in Volume II of this serial textbook. The grammatical sections of these units contain elementary outlines about these two aspectual forms, such as their orthography, different functions, and comparisons between PIN/PIM and the English past tense aspect, as well as examples. For instance, in the third unit, after an explanation of the meaning of PIM, which states PIM refers to an event that occurred in the past but does not care about its beginning or endpoint, the following example is offered: *En aquel entonces, todos sus familiares vivían en Shanghai* (At that time, all his relatives lived in Shanghai). However, if there is no complementary explanation and instruction aiming at the discourse-context wherein this event occurs, our learners frequently doubt whether it is a fact where all the events or states in the past time are complete at the moment of utterance. Therefore, the explanation and instruction should take a broader contextual perspective beyond the context of the sentence.

### 3. RESEARCH QUESTIONS AND METHODOLOGY

#### 3.1. Discourse-contextual information in grammar teaching

In this study we carried out a teaching experiment focused on the use of PIN and PIM with our instruction material and methodology. Concretely, we formulated the following two research questions:

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<sup>2</sup> According to Vendler (1967), these four lexical classes contain distinct inherent properties: concretely, stative verbs are non-dynamic, atelic, and durative; activity verbs are dynamic, atelic, and durative; accomplishment verbs are dynamic, telic, and durative; and achievement verbs are dynamic, telic, and punctual.

<sup>3</sup> *Modern Spanish* serial textbooks are published by the Foreign Language Teaching and Research Press (affiliate to Beijing Foreign Studies University), and are the unified textbooks for basic Spanish courses in university Spanish majors in China.

Q1: Whether the instruction materials and methodology used in this experiment are helpful in leading students to analyze their use of the Spanish aspect from a discourse-contextual perspective.

Q2: If the answer of Q1 is affirmative, then whether the experimental group is capable of integrating information which they perceived at the discourse-contextual level compared to information from the lexical and grammatical level, and whether they show a more accurate use of PIN and PIM versus the control group.

### 3.2. Experimental Subjects

The subjects of this study were 42 freshmen majoring in Spanish at a university in Eastern China. According to the National Exam for Spanish Major University Students, Level 4 (Examen Nacional para Estudiantes de Licenciatura de Filología Española Nivel 4/ National exam for Spanish Philology Majors-Level 4), students at this university represent the middle level of all Chinese universities which offer Spanish majors nationwide. These 42 students were enrolled in two parallel groups of 21 subjects each. The curriculum plan and the instructors for the two groups were the same; one group was chosen randomly to be the experimental group, while the other was the control group. Therefore, it was assumed that there was no significant difference in the Spanish proficiency level between the two groups in the pre-test (before the application of our experimental materials).

In terms of the data collection, 7 of the 42 subjects failed to participate in all the tests, and their data were excluded from the analysis. Therefore, the final number of subjects taking part in the research was 35 (N = 35). The size of the experimental group was 18 (EG, N = 18), whereas the control group was 17 (CG, N = 17).

### 3.3. Experimental teaching materials

The experimental teaching materials consisted of three video classes recorded by one of the authors through an online meeting platform, Tencent Meeting<sup>4</sup>, which is a platform similar to Zoom but more widely used for online classes in Chinese universities. The author who recorded the videos did not appear in them, and PowerPoint slides were used to illustrate the teaching contents.

In the teaching experiment we reorganized the contents related to PIN and PIM in units 1 to 6 of the students' textbook referred to above, and recorded a series of lessons consisting of three sessions:

Lesson 1: focused on the writing and orthography of PIN and PIM (26 minutes and 54 seconds).

Lesson 2: how to interpret the aspectual information in discourse situations, contextual variation, namely main prototypical and non-prototypical cases (32 minutes and 33 seconds in length).

Lesson 3: summarizing the functions of PIN and PIM according to the instruction given in the second lesson (9 minutes and 55 seconds).

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<sup>4</sup> Official website of Tencent Meeting: [https://meeting.tencent.com/activities?fromSource=sem81\\_gwzgw:447781123.4477849.447781162&bd\\_vid=8267833631690685920](https://meeting.tencent.com/activities?fromSource=sem81_gwzgw:447781123.4477849.447781162&bd_vid=8267833631690685920)

In these videos the main instruction language was Mandarin Chinese, accompanied by examples in Spanish. The second video class constituted the key content of this work, since in this video the learners were instructed and guided to represent and construct a virtual scene and animation from content and context made up of verbal information. In the following paragraph we list the outline of the instruction in the second video class:

The instructor shows the following two examples on the slide, which share the same structure and wording in their first clause but are followed by different clauses, so that the discourse information is perfective in the first sentence and imperfective in the second.

“1. El policía se *acercó* a la niña que parecía querer preguntarle algo.”<sup>5</sup>

“2. El policía se *acercaba* a la niña y en este momento un desconocido lo detuvo.”

The instructor raises the question that the first clause in both examples is the same, but asks about the differences between the scenes described in these two examples.

The instructor explains about the perspectives corresponding to PIN and PIM on a temporal axis (see Figure 2).

The instructor asks, in example 1, if the policeman finally came to the little girl. After assessing hypotheses, the instructor confirms the right answer (affirmative).

The instructor asks subjects to imagine the scene described by the first example as a scene in a film, and asks students whether the audience of the film can see the whole process of the event (the policeman came to the little girl) from this scene (perspective).

The instructor acts out the example. He shows again the temporal axis on the slide and analyzes the scenes described by these two examples. The instructor stresses that in example 1, the use of PIN means that the extent of the film scene allows one to observe the whole process of the event, whose extent is represented by the blue segment line in the temporal axis. That is to say, the audience of this film can see the whole process of the policeman’s movement, from his original place to coming to the side of the little girl.

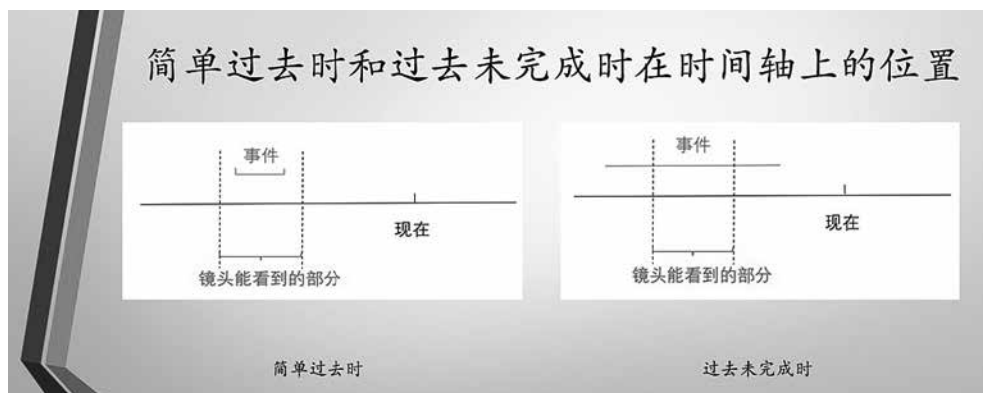
The instructor asks the subjects what can be observed from the scene described by example 2. Then, he indicates that as the verb in this sentence appears in PIM, from the cut in the film scene (example) we can see that the policeman was walking towards a little girl, but on his way it is possible that someone stopped him for a chat or for something else. At that moment the scene was cut and continued by the new scene.

<sup>5</sup> Translations of English for example 1: “The policeman approached the girl who seemed to want to ask him something.”; for example, 2: “The policeman was approaching the girl when a stranger stopped him.”

The instructor summarizes and emphasizes the fact that frequently the use of PIN and PIM in Spanish does not depend on grammatical rules—as in an ambiguous context, where both forms could be grammatical—but on what the scene is that the speaker (the “film director”) would like to show to his/her listeners (the “film audience”) and on the consideration of whether this scene is logically coherent with its pre- and post-scenes.

With the outline of the instruction-plan based on these two previous examples and with the help of a visual aid constituted by the temporal axis (Figure 1), and the so-called scenes (perspectives) from a film (previously negotiated with students as a key concept, metaphoric), the instructor explains the use of PIN and PIM with more examples, both prototypical and non-prototypical, to expand and consolidate the subjects’ perception and comprehension.

**Figure 1.** Outline of the instruction in the second video class



**Figure 2.** Temporal axis shown in the video-class for perfective (left) and imperfective (right) aspect

### 3.4. Instruments for data collection

Once the three video classes had been recorded, we sent them to the teacher of our subjects. In terms of test administration, a pre-test and a post-test were administered to both groups. Twenty days before implementing and testing the materials in the group we carried out a two-part pre-test consisting of a discourse-contextual comprehension task and a multiple-choice task of 14 items with 43 blanks.

In the comprehension task the subjects were required to randomly select five sentences which contained PIN or PIM (or both) from their Spanish course textbook, and to analyze the use of PIN or PIM in these sentences.<sup>6</sup> The student’s explanation could be provided in

<sup>6</sup> As the sentences chosen by our subjects contained different numbers of verbs, there were a slight difference in the total number of items collected from the two groups (see Table 1). Moreover, the students are asked to choose sentences from their textbooks to ensure that the questions were aligned with the study objectives, and that the content was appropriate for the level of the students.



either Chinese or Spanish. The instructions were as follows: 1. Why should those verbs be used as PIN or PIM? 2. What is the scenario described by PIN or PIM in the context? 3. Can the PIN or PIM in the sentences be replaced by the other form (i.e., PIN replaced by PIM, or PIM replaced by PIN?). The multiple-choice task consisted of 14 items. In each item there were several blanks in which subjects had to choose the right inflected form (PIN or PIM) according to the context, using the infinitive offered in the task. The total number of blanks in the multiple-choice task was 43.<sup>7</sup>

On the 20th day after the pre-test the teaching experiment was carried out with the experimental group. Our teachers/researchers played the three-video sequence in the sessions scheduled for the students. The videos were played in class, and the students were informed that they constituted complementary material for their in-depth comprehension and mastering of Spanish past tenses. After these class sessions the immediate post-test took place. Like the pre-test, the post-test also consisted of a comprehension task and a multiple-choice task, the difference being that this time the first part contained the students' previous data for them to comment on. Therefore, the first part was conceived to allow the researchers to test whether our experimental materials had an impact on the subjects' analysis and comprehension of the Spanish past tense aspect compared to their performance in the pre-test. To achieve this, before the test our researcher printed each subject's analysis of the comprehension task from the pre-test. Before administering the post-test the researchers asked the students if listening and viewing the video inputs had improved their insight or understanding of explanations of the questions from the pre-test. The subjects were asked to provide their new analyses using a different color, side by side with their original answer.<sup>8</sup> The multiple-choice task in the post-test also consisted of 14 items similar in difficulty to those in the pre-test. The total number of blanks was 48. A comparative analysis between the pre- and post-test versions of the multiple-choice task allows an examination of whether any improvement in the analysis and comprehension of discourse-contextual information is favorable for a more accurate use of PIN and PIM.

The control group were required to complete the same comprehension task and multiple-choice task on the same day, but they did not watch the video before the post-test. Therefore, in their post-test session our researcher asked them whether, after 20 days of learning, they thought they had gained any further comprehension of PIN/PIM use, or whether they believed they could improve their pre-test explanations. The subjects in the control group were provided with their previous answers and asked to try to improve on them, and they also completed the same multiple-choice task as the experimental group in the post-test.

Concerning test administration, both the pre-test and post-test comprehension tasks were answered on paper, whereas the multiple-choice tasks were online questionnaires which were answered by subjects on their mobile phones or other electronic devices.

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<sup>7</sup> The link to the items in the multiple-choice task is: [https://drive.google.com/drive/folders/1enRDnxWTELVvFaffQdyW8MY96Ry25Vm?usp=share\\_link](https://drive.google.com/drive/folders/1enRDnxWTELVvFaffQdyW8MY96Ry25Vm?usp=share_link)

<sup>8</sup> In the analysis of data the use of a different color helped to distinguish between the original and revised answers.

## 4. DATA ANALYSIS

### 4.1. Comprehension task

In the comprehension task of the pre-test we obtained 205 items consisting of answers from the experimental group, and 195 items from the control group. In the first analysis we calculated the mean frequencies of the answers, which were 11.39 and 11.47 in the experimental and control groups respectively. Hence, the mean values are almost the same in both groups.

The second analysis focused on supplementary items from the post-test. In the data classification we found some ambiguous expressions, such as those that only draw conclusions without any explanation or comment on the use of verbs—for example, if a student said “I still insist on the use of PIN” or “I think I have analyzed well (in the pre-test)”.<sup>9</sup> We excluded these answers from our analysis. We then obtained 72 items containing effective supplementary analysis in the experimental group, among which 41 were for stative verbs and 31 for dynamic verbs (see Table 1). In the control group, there were only 38 effective supplementary items, among which 26 were for stative verbs and 12 were for dynamic verbs. According to a SPSS chi-squared test there was a significant difference between the frequency of items with/without effective supplements in both groups ( $\chi^2 = 9.067$ ,  $df = 1$ ,  $p = .002$ ), whereby the frequency of effective supplements in the experimental group was significantly higher than in the control group.

**Table 1.** *Frequencies of items in pre-test and supplementary items in post-test by groups*

|  | EXPERIMENTAL GROUP<br>N = 18 | CONTROL GROUP<br>N = 17 |
|--|------------------------------|-------------------------|
| <b>No. of items in pre-test</b>                    | 205                          | 195                     |
| <b>No. of supplementary items in the post-test</b> | 72 (35.12%)                  | 38 (19.49%)             |
| No. of items from a contextual perspective         | 60 (29.27%)                  | 30 (15.38%)             |
| No. of analyses of another form                    | 29 (14.15%)                  | 9 (4.62%)               |

These supplementary items in the post-test were further classified according to their description perspectives. It was found that among all the 72 supplementary items in the experimental group, there were 60 items which discussed reasons why the verbs in the sentences were used as PIN or PIM from a discourse-contextual perspective, or were analyzed according to discourse-contextual information by means of a temporal axis (see Table 2 for examples). Furthermore, among these 60 items, 29 discussed the possibility of using other forms of grammatical aspect which were different from the original form given in the sentence (see Tables 1 and 2). We must recall that this accounts for almost 50% of the items. In the control group, among the 38 supplementary items 30 analyzed the use of PIN or PIM from the discourse-contextual perspective, among which only 9 discussed whether the original

<sup>9</sup> The items collected by the comprehension task were rated by two of the authors and a consensus was reached (e.g., whether the items were ambiguous, the type of verb that contained in the items and perspectives of analysis, etc.).

verb in the sentences could be replaced by the other grammatical aspect form. Analysis carried out using SPSS shows that among the supplementary items in the post-test, we can also observe significant differences in the frequencies of items discussing the possibility of replacing the original grammatical aspect form by the other form, and which did not contain such analyses between the experimental and control groups. ( $\chi^2 = 3.812$ ,  $df = 1$ ,  $p = .051$ ).

**Table 2.** *Examples of analysis from distinct perspectives*

| PERSPECTIVE OF ANALYSIS  | EXAMPLES IN SUBJECTS' ANALYSIS (TRANSLATED BY AUTHORS)  |
|--|---|
|  | <ul style="list-style-type: none"> <li>• As an atelic verb, it express a state without beginning and end point.</li> <li>• This verb refers to an action which has taken place and finished.</li> </ul>   |
| Non-discourse-contextual perspective                             | <ul style="list-style-type: none"> <li>• “Tuvo agua” is the change from having water → not having water.</li> </ul>   |
| Discourse-contextual perspective                                 | <ul style="list-style-type: none"> <li>• This verb appears in the sentence which describes the situation, and it does not promote the development of the main argument.</li> </ul>  |
| Analysis of the possibility of the other grammatical aspect form | <ul style="list-style-type: none"> <li>• This verb can also appear with the PIM form, which indicates the process of the emergence of this new notion. It is obvious that, in this process, there is no explicit beginning and end point, and it only refers to an event occurring in the past.</li> <li>• If we use the form “era”, then it means an event in the past without explicit time information. In contrast, the form of “fue” emphasizes the result of the event, rather than its process.</li> </ul> |

#### 4.2. Multiple-choice task

According to the SPSS analysis, the multiple-choice error frequency for 4 subjects were assessed as outliers, and therefore these data were excluded in our subsequent statistical analysis. The mean value of the error frequency of these two groups is shown in Table 3.

**Table 3.** *Error frequencies of multiple choice items in the pre-test and post-test separated by groups*

| EXPERIMENTAL GROUP |            |                  |            | CONTROL GROUP   |            |                  |            |
|--------------------|------------|------------------|------------|-----------------|------------|------------------|------------|
| <i>Pre-test</i>    |            | <i>Post-test</i> |            | <i>Pre-test</i> |            | <i>Post-test</i> |            |
| mean               | std. error | mean             | std. error | mean            | std. error | mean             | std. error |
| 9.13<br>(21.23%)   | 0.841      | 8.75<br>(18.23%) | 0.859      | 10.75<br>(25%)  | 1.097      | 9.94<br>(20.71%) | 0.644      |

The mean values in the pre-test and post-test show that in both groups the average error frequency in the post-test was slightly lower than in the pre-test. In addition, the mean values in both the pre-test and the post-test in the experimental group were slightly lower than the corresponding values for the control group. An SPSS t-test of independent samples

showed that there were no significant differences between the experimental group and the control group in terms of the mean error frequency in the pre-test ( $t = -1.175$ ,  $df = 30$ ,  $p = .249$ ) or in the post-test ( $t = -1.118$ ,  $df = 31$ ,  $p = .272$ ). In addition, an SPSS t-test of paired samples showed that there were no significant differences between the mean values of the pre-test and the post-test within groups ( $t = .374$ ,  $df = 15$ ,  $p = .714$  in experimental group and  $t = .379$ ,  $df = 15$ ,  $p = .710$  in control group).

In the follow-up analysis we classified the errors in the multiple-choice task based on the lexical class (according to Vendler's (1967) verb quartering classification). Table 4 shows the results of the data classification. First, by comparing the frequency of pre-test and post-test errors between the experimental group and the control group, we see that the results for state verbs in the two groups show an inconsistent trend, because the error frequency in the post-test in the experimental group increased (48 vs. 63), while this frequency in the control group was lower than in their pre-test (63 vs. 53). However, activity verbs (49 vs. 24 in the experimental group and 69 vs. 47 in the control group) and accomplishment verbs (3 vs. 19 in the experimental group and 2 vs. 28 in the control group) show consistent trends between the pre-test and post-test in both groups. In the case of achievement verbs, the error frequency in the post-test by the experimental group was less than in the pre-test (42 vs. 34), whereas in the control group the error frequency increased slightly in the post-test compared with that in the pre-test (38 vs. 40). Moreover, we observed that in the post-test results of the experimental group the error frequencies for all the dynamic verbs were less than the corresponding frequencies in control group. The opposite situation was detected in the case of stative verbs, where error frequencies in the experimental group were larger than in the control group. Hence, it seems that stative verbs were the most problematic lexical class for the experimental group.

**Table 4.** *Error frequencies classified by lexical class in both tests*

| LEXICAL CLASS   | EXPERIMENTAL GROUP |                  | CONTROL GROUP   |                  |
|-----------------|--------------------|------------------|-----------------|------------------|
|                 | <i>Pre-test</i>    | <i>Post-test</i> | <i>Pre-test</i> | <i>Post-test</i> |
| States          | 48                 | 63               | 63              | 53               |
| Activities      | 49                 | 24               | 69              | 47               |
| Accomplishments | 3                  | 19               | 2               | 28               |
| Achievements    | 42                 | 34               | 38              | 40               |

## 5. DISCUSSION

### 5.1. Effects of the experimental material on learners' comprehension

The results of this work support our research question 1 (Q1) that the methodology and material in this study leads students to analyze their use of Spanish aspect from the discourse-contextual perspective. In the post-test comprehension task the frequency of the supplementary items in the experimental group was significantly higher than in the control group. This improvement comes from

the fact that, compared to the control group, there were more subjects in the experimental group who could apply the ability to analyze the aspectual information in new discourse-contextual cases differently from the cases offered by the instructors in the video class. This means that meaningful learning of this analysis approach can be evidenced among subjects in the experimental group. As defined by Mayer and Wittrock (1996) and Mayer and Moreno (2003), meaningful learning “is reflected in the ability to apply what was taught to a new situation, so we measure learning outcomes by using a problem-solving transfer test.” Moreover, more subjects in the experimental group who attempted to discuss the possibility and adequacy of the other potential morphological form (PIN or PIM) differently from the original form chosen in the sentences according to the discourse-contextual perspective. This result indicates that the new material and teaching methodology utilized in this study has contributed to deepening the subjects’ understanding of PIN and PIM, as they recognized that the use of PIN and PIM is neither a mutually exclusive option nor a true-or-false problem in terms grammatical rules, but rather a recurrent problem occurring in a wider context. Hence, they tried to represent different situations with either PIN or PIM and discussed their possible coincidence in the context.

Moreover, previous studies indicated that L2 learners could gain a deeper understanding by using a multimodal approach, for example the combination of verbal, visual, and auditory input (Moreno & Mayer, 1999; Mayer & Moreno, 2003). The multimodal material utilized in this study did not contain any “real” visual or auditory input taken from real life. Nevertheless, the results of this study tend to support the conclusion that the presentation of “virtual” images and animation—even in this restricted scope—can help learners’ comprehension of PIN and PIM. In addition, following Jessner (2018, 2019), although the main instruction language in our video classes was Mandarin Chinese, the mechanism of metalinguistic awareness allowed our learners to obtain language development in Spanish. Also critical is the interaction and integration of an extralinguistic, physical context in learning in the L2 classroom, as is the integration of the learning environment or the context created by multimedia equipment (input), plus the virtual discourse context generated by learners themselves when combining their experience in real life with their comprehension derived from the verbal information and classroom input.

## 5.2. Relationship between comprehension and accuracy in production

Research question 2 (Q2) is partly supported by our results, because it seems that in the experimental group the implementation of our teaching materials brought a more accurate use of PIN and PIM in the case of dynamic verbs, although not stative verbs.

Our tentative explanation for this is that in the case of sentences containing dynamic verbs the durative or terminative event described by the sentence is more salient (prominently observable) because the lexical information of dynamic verbs is more explicit. In contrast, a situation described by any stative verb is implicit, and therefore it would be more challenging for our learners to observe the boundary of this situation and evaluate its coincidence with prior and subsequent scenes. Furthermore, in the video classes we emphasized how to interpret non-prototypical associations in the discourse-context, such as state verbs with PIN, and this reinforced input attracted and deepened learners’ attention to this combination. This impact could overlap with learners’ negative L1 transfer in the case of stative verbs, leading subjects in the experimental group to show a tendency to overuse the association between stative verbs with PIN.

The accurate use of Spanish PIN and PIM requires the analysis and integration of information at the lexical (lexical aspectual classes), grammatical (verbal morphologies), and discourse-contextual levels. The results of this study allow us to postulate that a wider and more skilled analysis from a discourse-context perspective does not necessarily bring more accuracy of use to Chinese learners in their target language, because their precise perception of information from other linguistic levels—especially information that is less salient—and their integration of information at different levels could be another key point to resolve in our teaching activities.

## 6. CONCLUSIONS

This study supports the idea that integrating the multimodal instruction of aspectual information interpretation in a discourse context with traditional grammar teaching can stimulate and improve sinophone learners' comprehension of the Spanish aspectual information of verbs in distinct discourse contexts. However, we also observed a lack of synchrony between the performance of stative and dynamic verbs in the multiple-choice task, which shows that guiding learners in perceiving and integrating information from different linguistic levels deserves further research.

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