CORPUS-BASED STUDY OF L3 ACQUISITION ON SPANISH PAST TENSE: EVIDENCE FROM LEARNERS' ORAL PRODUCTION

Hui-Chuan Lu
National Cheng Kung University, Taiwan, Province of China

An Chung Cheng
University of Toledo, United States

Shen Yun Hung
National Cheng Kung University, Taiwan, Province of China

Abstract: This paper focuses on a corpus-based study on the acquisition of L3 Spanish past tense in oral production through a learners' corpus. The main findings were: (1) Chinese-speaking learners in Taiwan demonstrated more accurate uses of the Spanish preterit than the imperfect in oral productions, same as the findings in their written productions and those in English-native speakers of Spanish; (2) These learners used telic verbs more correctly than those of activity and state in preterit form in both oral and written productions; (3) The developmental pattern of the Spanish past tense in the oral production of Chinese-speaking learners was similar to that of English-speaking learners of Spanish.

Keywords: tense, aspect, oral production, corpus, Spanish acquisition.

INTRODUCTION

It is known that second language learners of Spanish at the early stages of development have difficulty mastering the preterit and imperfect morphology. The acquisition of past tense and aspect has been studied extensively in research on second language acquisition (cf., Salaberry, 2000; Bardovi-Harlig, 2002; Ayoun & Salaberry, 2005; Bonilla, 2013). This topic is also especially interesting in cross-linguistic studies with learners of various language backgrounds when the learners' native language and target language share different systems in terms of marking tense and aspect. The situation is evident among Chinese-speaking learners of Indo-European languages. Chinese does not mark tense or aspect through morphological inflection as is the case in English and Spanish (e.g., Li, 2012; Lin, 2003). In English, the past tense is normally indicated by the use of a particular verb form – an inflected form of the main verb. Inflection may involve the use of affixes, such as the *-ed* ending that marks past tense of English regular verbs, e.g., 'walk' and 'walked.' On the other hand, Chinese expresses time references mainly by lexical means (adverbials, time phrases or context). Furthermore, Chinese aspect markers such as *le* and *guo* also place an action in past time. Time information can be conveyed through lexis of time or as a secondary feature by aspect markers. Thus, typological differences across languages impose substantial challenges for learners with different linguistic backgrounds as they acquire the tense and aspect of a target language. It is reasonable to assume that Chinese-speaking learners of Spanish have to learn new sets of mapping between the morphological forms and the functions/meanings of tense and aspect and that they also have to change their previous strategies for expressing tense and aspect with context, temporal adverbs, and aspectual markers (see also Cadierno, 1995; Chin, 2008).

Previous research on the acquisition of the Spanish past tense and aspect has examined different task conditions, including L2 learners' oral and written texts, personal or impersonal narratives, and open- or closed-ended tasks (see also Bonilla, 2013). However, little research has been conducted to investigate the acquisition

of target forms from a corpus-based approach, which is an emerging area of inquiry in Spanish second language acquisition research (Mendikoetxea, 2014).

This corpus-based study, then, is an attempt to examine cross-linguistic influences that might affect the acquisition of the Spanish past tense and analyze learners' accuracy rate of use and the lexical aspect classifications, using a created learners' spoken and oral corpora and the assistance of an annotation tool. This paper, on the one hand, presents the construction of a learners' oral corpus, in which the speech data provides better insights into spontaneous target language use for the study of multilingual acquisition in relation to written data. On the other hand, the present study focuses on a corpus-based study of oral productions containing occurrences of Spanish past tense and aspect by Chinese-speaking learners of Spanish in Taiwan. The participants learned Chinese as their first language (L1) and English at middle or high schools as their second language, and learned Spanish at senior high schools or colleges as their third language. Under the framework of the Lexical Aspect Hypothesis (Andersen 1986, 1989; Vendler, 1967), this study set out to analyze cross-linguistic influence that affects learners' oral production in marking Spanish past tense and aspect and the relationship between the lexical aspect classification and the learner selections of tense and aspect. It is also intended to reveal the developmental pattern of the acquisition of Spanish tense and aspect by Taiwanese learners at different proficiency levels, in comparison with their written production. The results of this study are also compared with those of previous studies on this topic focusing on English-speaking learners of Spanish in order to explore the universality of the acquisition of tense and aspect.

This paper is organized as follows: In Section 2, previous research on learners' corpus, past tense, grammatical and lexical aspects, and acquisition of L2 Spanish are discussed. Section 3 presents the research questions and methodology. Results are presented and discussed in Section 4. Section 5 provides the conclusions of this study.

PREVIOUS RESEARCH

Learner corpus

The development of corpus linguistics has facilitated research in both theoretical and applied studies of language. As an essential and important source of research, different types of corpora have been created for various needs and purposes. Among these different types of corpora, the construction of learners' corpus benefits research in language acquisition (Granger, 2003, 2009; Myles, 2005, among others). However, according to Weisser (2016), only 32 of the 360 exiting corpora are learners' corpora, in which 81% (26/32) are related to English learning, 66% (21/32) are written corpora, 28% (9/32) are oral corpora, and 6% (2/32) are both written and oral corpora, whereas only four learner corpora are related to Spanish.

Among the constructed learners' Spanish corpora, the Corpus Escrito del Español L2 (CEDEL2[1]) and the Spanish Learner Language Oral Corpus (SPLLOC[2]) are renowned internationally. The data of these two corpora was all from English-speaking learners. They differ in that the former is a written corpus, and the latter is an oral one. Moreover, in terms of search functions, there is no public search interface for the CEDEL2, whereas the SPLLOC provides public access to search for words and phrases from compiled data. Furthermore, although several corpora related to Spanish acquisition in Taiwan have been constructed for different purposes (such as the Corpus Oral del Español en Taiwán COET[3], Corpus de textos escritos por universitarios taiwaneses estudiantes de español[4], Corpus Escrito de Aprendices Taiwaneses de Español de la Universidad Providence[5]), they are unfortunately not sharable resources, nor are they accessible for the general public.

In Taiwan, the learners' written corpus, CEATE (Corpus Escrito de Aprendices Taiwaneses de Español / Taiwanese Learners' Written Corpus of Spanish), which features on-line free access[6] and multi-search functions[7] was constructed by the corpus team of National Cheng Kung University. The purpose of building CEATE was to inform teaching and advance research on third language acquisition. In 2005-2011, the research team compiled 2,425 texts, with 446,694 words from written texts of L1 Chinese-speaking adult learners of Spanish as a third language (L3) after learning English as their second language (L2)[8]. The texts were collected from learners of Spanish at 15 universities in Taiwan. Then, the construction of a learners' oral corpus of Spanish, COATE (the Corpus Oral de Aprendices Taiwaneses de Español / Taiwanese Learners' Oral Corpus of Spanish), was started

---

[1]   The CEDEL2 was created by the Universidad Autónoma de Madrid and Universidad de Granada.

[2]   The SPLLOC was constructed by Southampton, Newcastle and York University in the UK.

[3]   Corpus Oral del Español en Taiwán (COET) was created by J. Pérez Ruiz and M. Rubio Lastra in 2004.

[4]   Lin, T.-J. (2005). Corpus de textos escritos por universitarios taiwaneses estudiantes de español. *Lingüística en la Red, 3*, 1-58.

[5]   Lu, L.-H. (2016). Corpus-based study of Spanish writing. *Foreign Language Studies, 24*, 145-169.

[6]   http://corpora.flld.ncku.edu.tw

[7]   The four major search functions include: (1) specific word, (2) word and its POS, (3) word, its POS, and the POS of the following word, and (4) verbal lemma.

[8]   It should be noted that these learners had learned L2 English previously as a school subject, so their knowledge of past tense morphology might affect their learning of L3 Spanish.

in 2013 with the same purpose as that of CEATE. Thus, the corpus of Taiwanese learners of Spanish, the CATE (Corpus de Aprendices Taiwaneses de Español) consists of two different types of learner production data from both the CEATE and COATE.

Past tense and aspects

Tense indicates the position of a relationship between an event and a time on a timeline, whereas aspect defines the internal temporal feature of an event expressing the speaker's point of view without it being associated with a timeline (Comrie, 1976). Spanish expresses tense by means of verbal inflections. The indicative past in Spanish has two forms, the preterit and imperfect, which are differentiated according to aspect. However, English does not mark past tense and aspect by means of inflectional morphology but rather by means of periphrastic constructions. The English sentences "I called my sister" and "I was calling my sister" convey perfective and progressive aspect, respectively. The perfective *vs.* imperfective distinction is often realized through grammaticalized affixes or auxiliaries in English and Spanish. Chinese tense and aspect, on the other hand, are expressed through temporal adverbs, context, and aspectual markers including *guo, zai, zhe* and *le* (See Li, 2012; Lin, 2003). For example, the verbal suffix *le* is often been characterized as a perfective marker indicating completion or termination of an action. A past event for "Ta chi yi-tiao yu" can be expressed as below.

Ta chi-le yi-tiao yu

he eat-Asp one-Cl fish

'He ate a fish.'

Telic predicates such as "*chi yi-tiao yu* / to eat a fish" are interpreted perfectively, but if they are combined with *zai*, such as in *zai chi yi-tiao yu* 'be eating a fish,' they are interpreted imperfectively.

Vendler's (1967) lexical aspect theory accounts for verbal structure in relationship to time. State, activity, accomplishment and achievement are four basic types that distinguish the internal lexical meanings of verbs. For example, "*ver*/to see," "*amar*/to love," "*querer*/to want," and "*esperar*/to wait" express a stative state. Verbs of "activity" indicate durative actions without an endpoint, such as "*correr*/to run," "*cantar*/to sing," and "*jugar*/to play." Verbs of "accomplishment" are associated with those durative actions with a clear endpoint, for instance, "*leer una novela*/read a novel," and "*cruzar la calle*/to cross the street." Finally, verbs of achievement are those that are associated with instantaneous actions with an endpoint, for example, "*reconocer*/to recognize," "*morir*/to die," "*encontrar*/to find out." Furthermore, Comrie (1976) and Andersen (1989, 1991) used three semantic features (dynamic, telic and punctual) to distinguish verbal aspects. Dynamic denotes that energy is required for the situation to exist or continue. Telic denotes having an inherent endpoint. Punctual denotes having no duration. Vendler's categories are characterized by different combinations of the features punctual/durative, tetic/atelic, and dynamic/stative (Shirai and Andersen, 1995). These combinations are shown in the table below.

Feature analysis of the four verb classes.

	STATE	ACTIVITY	ACCOMPLISHMENT	ACHIEVEMENT
PUNCTUAL	--	--	--	+
TELIC	--	--	+	+
DYNAMIC	--	+	+	+

(Source: Shirai and Andersen, 1995:744).

Research in the aspect hypothesis in the acquisition of past morphology

In second language acquisition research, previous studies on the Spanish past tense and aspect have found that Spanish L2 learners initially use the preterit as a default tense marker, instead of relying on inherent aspectual distinctions (Salaberry, 1999, 2003; Salaberry and Ayoun, 2005; Salaberry and Shirai, 2002). For native English learners of Spanish, the preterit is considered the predetermined form used to express the past tense. Salaberry (1999) first proposed the Default Past Tense Hypothesis (DPTH) based on a study with L2 English-speaking learners of Spanish. DPTH predicts that beginning learners initially rely on the use of the preterit to mark tense distinctions and preterit marking will emerge across all aspectual classes. Ayoun and Salaberry (2005) hypothesize that learners initially are only able to mark tense, then gradually they become more sensitive to lexical aspect, then they begin to mark foreground/background distinctions.

Another leading hypothesis, Lexical Aspect Hypothesis (LAH) (Andersen, 1986, 1991; Andersen & Shirai, 1994; Bardovi-Harlig, 2000) argues that past marking emerges based on inherent aspectual categories. Certain form–meaning mappings (i.e. telic–Preterit and atelic–imperfect) guide the emergence of past tense forms in second

language acquisition. The acquisition of tense-aspect morphology can be explained by the interaction of two grammatical aspects (perfective & imperfective) and four inherent lexical aspects (stative, activity, accomplishment and achievement). The inherent lexical aspects of verbs can be characterized in terms of semantic features (punctual, telic, and dynamic) (Shirai & Andersen, 1995). The LAH suggests that the use of imperfective markers spreads from stative verbs to non-stative verbs, and the use of perfective markers spreads from punctual verbs (achievements) to non-punctual verbs (Andersen, 1986, 1991; Andersen & Shirai, 1994; Bardovi-Harlig, 2000). Research supporting the LAH has found a common pattern in which learners initially use present morphology for past context (Camps, 2000; Salaberry, 1999). At a later stage, preterit morphology emerges in telic predicates (accomplishments and achievements); imperfect morphology is almost nonexistent. However, it will be eventually extended to activity and stative verbs. When imperfect morphology emerges, it does so in state and then activity predicates, extending then to accomplishment verbs, and finally to achievement verb. That is, the preterit is associated more frequently with telic actions whereas the imperfect is used more with stative verbs. (Camps, 2002, 2005; Hasbún, 1995; Lopez-Ortega, 2000; Ramsay, 1990). In addition, Salaberry (2003) suggested that the LAH applied better to learners at more advanced levels. Advanced learners distinguished the use of preterit and imperfect contrast according to lexical aspectual classes. New evidence on the validity of the LAH in L2 Spanish was offered in a study by Domínguez *et al.* (2013). Temporal marking is used differently in terms of verbs and the proficiency level of learners. They found that beginner and intermediate beginner and intermediate speakers used preterit with event (dynamic) verbs but imperfect mainly with state (non-dynamic) verbs. The advanced learners used typical Preterit–telic associations in the least controlled oral tasks, as predicted by the LAH. In order to extend the application of LAH and to test the theory, Salaberry (2003) and Dalila and Salaberry (2005) suggested including Asian learners in research on this topic for further understanding of the processes and mechanisms involved in acquiring the past tense and aspect.

Moving the focus on English-speaking learners to learners of other languages, Lu, Cheng, & Hung (2015) investigated the development of the acquisition of L3 Spanish past tense in the written production (33,655 words) of 143 Chinese-speaking Taiwanese learners from six different universities. The result showed that Taiwanese learners demonstrated more accurate use of the Spanish preterit than that of the imperfect in written texts in the early stages of their development. From the perspective of lexical aspect, the results demonstrated the following acquisition order: telic (achievement and accomplishment) verbs preceded activity verbs, and finally stative verbs. However, the acquisition of the imperfect showed the opposite order regarding the lexical aspect of verbs. That is, stative verbs preceded activity verbs and then telic verbs (achievement and accomplishment). Furthermore, in the majority of cases, Taiwanese learners of Spanish demonstrated a similar pattern of acquisition of the Spanish past tense in terms of lexical aspect to that of English-speaking learners of Spanish.

To extend the scope of inquiry into the relationship between verbal morphemes and the types of lexical verbs in third language acquisition, the present study analyzes oral data compiled in an L3 Taiwanese learners' corpus of Spanish under the framework of the Lexical Aspect Hypothesis (LAH) (Andersen, 1991).

Comparison between written and oral modalities

Variability in learners' production has long been discussed as important consideration in second language acquisition research. Previous studies have shown that there are differences in the oral and written production by second language learners (Dickerson & Dickerson, 1977; Tarone, 1979, 1985; Hsieh, 2005; Larsen-Freeman, 2006; Ellis, 2008). However, Cortés (2002) and Blanco Pena (2013) indicated that similar error patterns in written production can be observed in oral development. Furthermore, a case study by Hubert (2013) showed a strong correlation between speaking and writing performance.

Skehan (2009) argued that relationship between task design and complexity, accuracy and fluency in task performance had a trade-off effect due to learners' limited attention and working memory. There was a tension between form (complexity and accuracy), on one hand, and fluency, on the other hand. The task conditions relevant to the oral and written narrative tasks used in this study of tense and aspect marking have found the effects on complexity, accuracy and fluency as reviewed by Skehan (2009). Pre-task planning overall seems to aid complexity and fluency. Also, narrative tasks have shown greater complexity but less accuracy and fluency.

Martelle's (2011) study of learning L2 Russian by L2 English speakers showed that the DPTH was more supported in tasks with more planning time, such as written narratives, whereas the LAH was supported more by tasks that elicited oral narratives or conversations, which took less time.

Camps (2002, 2005) and Lubbers-Quesada (2006, 2007) are research on the acquisition of L2 Spanish tense and aspect examined the oral productions supported the LAH. However, Husbún (1995) focused on written production, and the results challenged the LAH developmental sequence proposed by Andersen (1991) because the acquisition of preterit did not move from telic verbs (accomplishment and achievement) to durative verbs (activity) and further to stative ones. On the other hand, Potowski (2005) analyzed both written and oral texts from bilingual Spanish L1, Spanish L2, and newly arrived native speakers of Spanish in two-way immersion classrooms.

The results showed similar distributions of preterit and imperfect by aspectual category in both written and oral productions. Ruiz-Debbe (2005) analyzed both types of production, and the results indicated that English learners of Spanish exhibit different acquisition sequences in oral and written production and across different proficiency levels. Based on the literature review, research related to learners' written and oral data demonstrate different but conflicting findings in the acquisition of L2 Spanish tense and aspect. It is hoped that this study will shed light on the second language acquisition of Spanish tense and aspect, and will fill the gaps in the literature on this topic.

METHODOLOGY

Research questions

Extended from a previous study on the Spanish tense and aspect with learner written texts (Lu *et al.*, 2015), this study focuses on learners' oral production. The research questions are as follows:

1. What is the development of past tense morphology and what is the development of lexical aspect classifications of past tense by Chinese-speaking learners of L3 Spanish?

2. Do written and spoken productions of Chinese-speaking learners of L3 Spanish demonstrate the same pattern of past tense marking and lexical aspect of verbs in the acquisition of Spanish tense and aspect?

Research method

The research method includes two major parts: construction of spoken corpus as the data source and analysis of oral data.

Data collection: Construction of COATE. For the first part, in the process of constructing the oral corpus, the research team compiled oral data collected from L3 learners of Spanish at four universities (Tamkang University, Providence University, WenZao University, and National Cheng Kung University) in Taiwan, where Mandarin-Chinese is spoken in daily life, and English is learned as a school subject in middle or high schools. All participants signed a consent form to authorize the future usage of compiled spoken data and provided linguistic profiles and language learning experience related to Spanish through questionnaires. Instead of using seat time to determine the participants' proficiency levels, as has been the case in many other previous studies, a 45-minute Wisconsin Placement Test was administered prior to data collection. Then, the participants recorded a three-minute self-introduction as a warm-up activity in the language laboratories of their institutions during class time. They were given a six-minute preparation section to understand a picture-description task. The speech production that entered the data pool was an oral narrative, in which they described a picture series with key words at the side of each picture illustrating a fairy tale, Little Red Riding Hood (Caperucita Roja), in a period of 18 minutes. Afterwards, the speech data was transcribed with the EXMARaLDA Partitur-Editor (Schmidt, 2011), following the LINDSEI transcription system (Louvain International Database of Spoken English Interlanguage).

Data source: Learner corpus COATE. A total of 15.55 hours of the recorded oral narratives of 71 participants were compiled to construct the Taiwanese Learners' Oral Corpus of Spanish / Corpus Oral de Aprendices Taiwaneses de Español (COATE). The number of participants, their proficiency level as well as hours and words of recording data are shown in Table 1. Since the participants were college students, the Wisconsin Placement Test, widely used in the US colleges, was administered to identify participants' Spanish proficiency levels. According to the Spanish placement criteria at Wisconsin test results, participants with scores between 426-548 points (28-48 out of 77 questions correctly answered) were grouped into the beginning level. Participants with scores between 554-618 points (49-58 out of 77 questions correctly answered) were classified to the intermediate level.

Table 1. Data distribution of COATE.

Level	Beginning	Intermediate	Total
Participants	44	27	71
Recording (hours)	9.51	6.04	15.55
Transcription (words)	21,887	13,600	35,487

The corpus COATE was constructed from 2013 to 2014. It was combined with the Taiwanese Learners' Written Corpus of Spanish / Corpus Escrito de Aprendices Taiwaneses de Español (CEATE), which was constructed from 2005 to 2011, to form the two main sub-corpora of the Taiwanese Learners' Corpus of Spanish / Corpus de Aprendices Taiwaneses de Español (CATE). The COATE, as a sub-corpus, added spoken data into the existing written sub-corpus, CEATE, to expand the scope of the corpus CATE. Based on the construction results of the learners' oral corpus, COATE, a corpus-based linguistic analysis was conducted afterward.

Data analysis. For the subsequent data analysis, speech data were annotated with UAM CorpusTool (O'Donnell, 2012) to facilitate the annotation process in two sub-steps. Firstly, Hispanic native speakers who were trained to use the UAM CorpusTool following guidelines of error-correction for CATE marked learner errors with corresponding corrections and those errors were checked and confirmed by our research assistants who had lived and studied in Spain for more than five years. Then, the research team (consisting of 3 trained assistants) annotated the uses of the examined verbs, following guidelines of past tense and aspect for CATE, by contrasting learners' usage and the corrections as revised by Hispanic native speakers. Furthermore, verbs were annotated according to specific categories including lexical aspects and verbal predicates, as well as tenses.

Finally, a total of 14,043 annotations were made, including the following categories: (1) Tense and aspect use according to a. Hispanic natives and b. Chinese-speaking learners of Spanish: correct and incorrect usages[9]; (2) the tenses: present, preterit, and imperfect; (3) the lexical aspects: state, activity, accomplishment, achievement, telicity (accomplishment and achievement) and dynamics (activity and telic)[10].

To calculate the accuracy rate of learners' oral productions, we took Hispanic native speakers' judgments and their revisions for correct uses as a standard reference. The Hispanic native speakers' judgements formed the baseline to compare and contrast the productions of learners. That is to say, the accuracy rate of imperfect was calculated as: learners' correct instances of imperfect divided by Hispanic natives' instances of imperfect. The same calculation was employed to compute the accuracy of learners´ correct uses of preterit[11]. In order to observe the tendency of learners' uses of the Spanish past tense and aspect at different developmental stages, we took into account variables such as lexical aspects and language proficiency (beginning and intermediate levels) in the computation.

It should be noted that the two sets of learners' data (written and oral productions) were elicited with the same tool (a narrative of Little Red Riding Hood with picture prompts) but with two different tasks, written and spoken output.

RESULTS AND DISCUSSION

The data pool was divided into two groups: beginning and intermediate levels, based on the results of the Wisconsin Placement Test. The verbs that appeared in the learner corpora were classified based on their lexical aspects and semantic features as the following: state, activity, telic (accomplishment and achievement) and dynamic (activity, accomplishment and achievement) verbs. The Independent t-test was used to compare the means of two independent groups (beginning and intermediate level) through statistical evidence to verify whether they are significantly different with respect to different lexical aspects. The results of the examined lexical aspects (state, activity, telic and dynamic verbs) that might affect the selection of Spanish past tense morphology (preterit and imperfect) in oral data are shown in Table 2.

Table 2. Language proficiency for different lexical aspects of past tense.

Aspect	Preterit		Imperfect	
	F Value	P Value	F Value	P Value
State	0.032	0.958	1.958	0.085
Activity	1.386	0.468	0.494	0.245
Telic V	0.891	0.814	0.178	0.731
Dynamic V	1.950	0.717	0.493	0.313
Average	1.467	0.746	0.875	0.203

According to Table 2, there was no significant difference found by conducting the independent t-test, since the p-values of all relationships were above 0.05 (0.958, 0.468, 0.814, 0.717 and 0.746 for preterit and 0.085, 0.245, 0.731, 0.313 and 0.203 for imperfect). As the difference between learners at the two proficiency levels under consideration did not reach significance for performance accuracy of the preterit and imperfect use in terms of the verbal lexical aspects, it can be concluded that the difference in language proficiency levels (beginning

---

[9] By using the UAM CorpusTool, 3 levels were used to classify the uses of tense and aspect: (1) Classification of tense and aspect when the verb is correctly used by Chinese-speaking learner of Spanish according to Hispanic native, (2) Classification of tense and aspect when the verb is incorrectly used by Chinese-speaking learner of Spanish according to Hispanic native, and (3) Classification of tense and aspect when the verb is incorrectly used by Chinese-speaking learners of Spanish according to learners of Spanish. For example, for the verb "vivió" in the sentence "Ella vivió el bosque", we annotated (1) incorrect use, (2) incorrect use-imperfect used by Hispanic natives, and (3) incorrect use-preterit used by learners while the verb "estaba" in the sentence "Su madre le dijo su abuela estaba enferma y tenía que visitarla" was annotated with (1) correct use, (2) correct use-imperfect used by Hispanic natives, and (3) correct use-imperfect used by learners.

[10] On one hand, verbs used with preterit aspect included (1) stative: sentirse; (2) activity: llevar una cesta; (3) accomplishment: decir, aconsejar, preguntar, ponerse ropa, colocarse gorro, tomar siesta; and (4) achievement: olvidar, aparecer, llegar. On the other hand, verbs used with imperfect aspect included (1) stative: vivir, estar, ser, haber; (2) activity: andar, llamar, ir, cantar, coger flores; and (4) achievement: pedir auxilio.

[11] For example, if a student produces a total of 15 correct uses of preterit aspect compared to the total number (19) of preterit aspects confirmed and revised by the Hispanic natives, the result of calculation is 15/19≈0.79 for this individual student. Then, the average of all students at the same proficiency level were calculated. Furthermore, the same method was applied for calculating averages for different lexical aspects.

vs. intermediate) did not play any role in significantly affecting the accuracy rate of using Spanish past tense for different lexical aspects in oral data. Nevertheless, we were able to observe learners' tendency toward oral usage for each level, as shown in Table 3.

Table 3. Distribution of correct uses for different lexical aspects.

	Lexical Aspect		Beginning (%)			Intermediate (%)		
Preterit	State		34.01			37.04		
	Activity		43.39		56.57	49.59		58.56
		Dynamic V.		56.75			58.39	
	Telic V.		59.08			60.43		
Imperfect	State		52.22			66.62		
	Activity		39.87		45.97	49.53		54.28
		Dynamic V.		38.81			46.85	
	Telic V.		21.59			24.07		

According to the distribution of correct uses for different lexical aspects (stative and dynamic verbs), the results showed the overall accuracy rate[12] of preterit usage to be higher than that of imperfect usage by Taiwanese learners of Spanish in spoken production for both levels, 56.57% > 45.97% for the beginning level[13], and 58.56% > 54.28% for the intermediate level[14]. The same tendency was observed in the early stage of Taiwanese learners' written production, 84.75% > 61.42% for the beginning level (Lu *et al.,* 2015). This has also been found to be the case for English-native speakers of Spanish (cf. Andersen, 1986; Ramsay, 1990; Hasbún, 1995; Salaberry, 2000, 2003, 2008; Salaberry and Ayoun, 2005). Therefore, according to the distributional tendency of accuracy rate, it could be inferred that the preterit use in general is acquired earlier than the imperfect use as a universal phenomenon for both L2 and L3 Spanish learners whose native language is English and Chinese, respectively.

In terms of lexical aspect, as shown in Table 3, learners of beginning and intermediate levels used dynamic verbs (56.75% and 58.56%, activity and telic verbs) more correctly than those of state (34.01% and 37.04%) in spoken production. In other words, learners used telic verbs (59.08% and 60.43%), accomplishment and achievement) more correctly than those of activity verbs (43.39% and 49.59%) in the perfective aspect (preterit). In the oral production of the imperfective aspect (imperfect), the opposite order was found. The accurate use of the imperfect for beginning and intermediate levels in the stative verbs was 52.22% and 66.62%, which were higher than the accuracy rates for the dynamic (38.81% and 46.85%), activity (39.87% and 49.53%), and telic (21.59% and 24.07%) verbs. Based on a written task (Lu *et al.,* 2015), the comparison of the results for the current study using oral data and the results of an earlier study using the written data are shown in Figure 1.
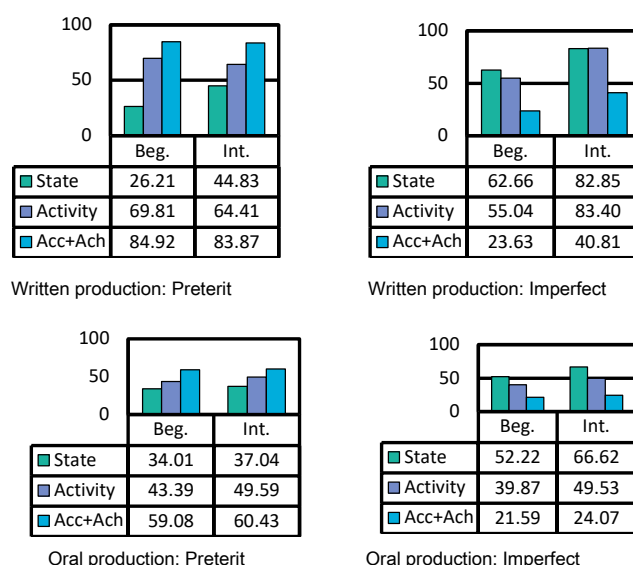

	Beg.	Int.
State	26.21	44.83
Activity	69.81	64.41
Acc+Ach	84.92	83.87

Written production: Preterit

	Beg.	Int.
State	62.66	82.85
Activity	55.04	83.40
Acc+Ach	23.63	40.81

Written production: Imperfect

	Beg.	Int.
State	34.01	37.04
Activity	43.39	49.59
Acc+Ach	59.08	60.43

Oral production: Preterit

	Beg.	Int.
State	52.22	66.62
Activity	39.87	49.53
Acc+Ach	21.59	24.07

Oral production: Imperfect

Figure 1. Comparisons of learner performance in written and oral production

---

[12] The accuracy rate was calculated by dividing the total of correct uses by student number.

[13] On the one hand, for the preterit usage of beginning learners, the accuracy rate of stative verbs was 34.01% and the dynamic verbs was 56.75%, including verbs of activity (43.39%) and telic verbs (59.08%). On the other hand, for intermediate learners, the accuracy rate of stative verbs was 37.04% and the dynamic verbs was 58.39%, including verbs of activity (49.59%) and telic verbs (60.43%).

[14] For the imperfect usage of intermediate learners, the accuracy rate of stative verbs was 66.62% and the dynamic verbs was 46.85%, including verbs of activity (49.53%) and telic verbs (24.07%) while for the beginning level, the accuracy rate of stative verbs was 52.22% and the dynamic verbs was 38.81%, including verbs of activity (39.87%) and telic verbs (21.59%).

As shown in the upper part of the Figure 1, the accuracy rate of preterit uses were higher with telic verbs (accomplishment and achievement) for both levels of learners (beginning, 84.92% and intermediate, 83.87%) than verbs of activity (beginning, 69.81% and intermediate, 64.41%) and stative verbs (beginning, 26.21% and intermediate, 44.83%) in the written production of Taiwanese L3 learners of Spanish. In contrast, the accuracy rate of imperfect uses were higher with stative verbs for both levels of learners (beginning, 62.66% and intermediate, 82.85%) only than telic verbs (beginning, 23.63% and intermediate, 40.81%) (Lu *et al.,* 2015).

As what has been concluded from Table 3, we can observe partial similar tendency for written and oral production: Chinese learners of L3 Spanish used verbs of accomplishment and achievement more correctly than verbs of activity and state in the preterit in both oral and written production. On the other hand, the opposite order was the case with the use of imperfect only in spoken production for different development of proficiency levels. That is, the developmental patterns (state > accomplishment+achievement) were observed only for the earlier stage of development (beginning level) among Taiwanese learners in the use of imperfect of written texts, but not for the latter stage (intermediate level).

The different behavior of learners in terms of written and spoken production in the use of Spanish preterit and imperfect can be explained by the differences of reaction times entailed in the written and oral tasks, that is to say, a spoken narrative is a spontaneous speech that is produced with less reaction time, whereas a written narrative allows for more reaction time to produce the output. Compared to the acquisition pattern of English-speaking learners, the oral production of Chinese-speaking learners of L3 Spanish showed a similar pattern related to developmental stage in terms of verbal lexical aspects. It should be noted that the similarity between learners with two language backgrounds was observed only in the earlier learning stage in the written modality. This might be attributed to the tasks adopted in different studies, where written production was examined in Chinese-speaking learners in Lu *et al.* (2015) and oral production was examined in this study.

Going one step further, in order to examine the relationship between the oral uses of preterit and imperfect for each proficiency level, a correlation test was conducted, for which the results are shown in Table 4.

Table 4. Relationship between preterit *vs.* imperfect.

Level	Correlation	P Value
Beginning	0.229	0.135
Intermediate	0.458	0.016

In Table 4, there was no significant difference in the correct uses of preterit and imperfect for learners at the beginning level according to the correlation test (p > 0.05), whereas the correct uses of preterit and imperfect for learners at the intermediate level were positively correlated (p = 0.016). That is to say, the higher is the accuracy rate of preterit use, the higher is that of imperfect uses; but this is not the case for learners of beginning level.

To examine the relationship and determine the difference between lexical and grammatical aspects, paired t tests between lexical aspects within preterit and imperfect for each level of proficiency were conducted. Table 5 shows the results of the paired t-tests with all comparisons turning out to be statistically significant (p < 0.05).

Table 5. Relationship between lexical and grammatical aspects.

Aspect	Level	Beginning		Intermediate	
	Lexical aspect	Average±s.d.	P	Average±s.d.	P
Preterit	State *vs.* Dyn.	-0.22735±.0.46	0.02	-0.21899±0.46	0.022
	State *vs.* Telic	-0.25062±.0.46	0.001	-0.23392±0.46	0.014
	Activity *vs.* Telic	-0.15738±0.26	0.000	-0.10839±0.22	0.018
Imperfect	State *vs.* Dyn.	0.13408±.0.30	0.006	0.19773±0.27	0.001
	State *vs.* Activity	0.12356±.0.30	0.009	0.17098±0.27	0.004
	State *vs.* Telic	0.30631±.0.41	0.000	0.42551±0.40	0.000

From the upper part of Table 5, the differences between stative and dynamic verbs (verbs of activity and telic verbs), that between stative and telic verbs, and that between verbs of activity and telic verbs for both levels of learners in the preterit aspect were significant (p < 0.05). These results suggested that the specific variable that affects the correct use of preterit is telic verbs. Furthermore, it can be seen that the lexical aspect that really affected the correct uses of the imperfect aspect for both levels was the verbs of state because the relationship between verbs of state and dynamic verbs (activity, accomplishment and achievement), that between verbs of

state and verbs of activity and that between verbs of stative and telic verbs (accomplishment and achievement) were significantly different (p < 0.05). Therefore, it can be concluded that the telic verbs in preterit aspect and the state verbs in imperfect aspect are the key variable affecting correct selection of Spanish preterit and imperfect aspects. It seems that the lexical aspect does not play a crucial role in determining the selection of two grammatical aspects for these learners.

CONCLUSION

In conclusion, we compiled a L3 learners' oral corpus of 71 Taiwanese learners of Spanish (15.5 hours and 35,487 words) with annotations of error-correction and lexical aspects in this study in order to investigate the acquisition of Spanish past tense and aspect under the framework of the Lexical Aspect Hypothesis (Andersen, 1991; Andersen & Shirai, 1994). By contrasting written and spoken production, the results showed that the overall accuracy rate of preterit use was higher than that for imperfect use in Chinese-speaking learners of L3 Spanish in both written and spoken production at the earlier stage. However, this pattern appears to only occur in the later stage for the oral production. In addition, learners use accomplishment and achievement verbs more correctly than verbs of activity and state verbs in the perfective aspect (preterit) and the opposite order (state > activity > accomplishment + achievement) characterizes the use of the imperfective aspect (imperfect) in both types of production for learners at earlier stages. This pattern was also observed at a later stage of Taiwanese learners in their spoken production but was not the case for their written production. Furthermore, the oral production of L3 Chinese-speaking learners shared a similar pattern of development with respect to verbal lexical aspects to that of English-speaking learners. However, the findings with the two groups of learners with different language backgrounds only correlate with the results of written production by the beginning learners. Compared to written data, oral data requires more spontaneous reactions to task prompts, which might provide a more authentic representation of acquisition. Finally, according to the analysis of spoken production, the telic verbs in preterit and the state verbs in the imperfect aspect are the key variables related to the correct selection of grammatical aspects. Since Chinese language does not mark past tense and aspect through verbal morphology, it is reasonable that Chinese-speaking learners of L3 Spanish take more time and need more attention and processing time to acquire Spanish past tense and aspect. Future studies could investigate the oral and written production of Chinese-speaking learners at advanced proficiency levels to test the Lexical Aspect Hypothesis.

ACKNOWLEDGMENTS

REFERENCES

Andersen, R. W. (1986). "El Desarrollo de la Morfología Verbal en el Español como Segundo Idioma", in J. M. Meisel (ed.) *Adquisición del Lenguaje – Acquisição da Linguagem.* Frankfurt: Klaus-Dieter Vervuert Verlag, 115-138. https://doi.org/10.31819/9783964562081-011

Andersen, R. W. (1989). "La adquisición de la morfología verbal", *Lingüística, 1*: 89-141.

Andersen, R. W. (1991). "Developmental Sequences: The Emergence of Aspect Marking in Second Language Acquisition", in T. Huebner & C. A. Ferguson (eds.) *Crosscurrents in Second Language Acquisition and Linguistic Theories.* Amsterdam: John Benjamins, 305–324. https://doi.org/10.1075/lald.2.17and

Andersen, R. & Shirai, Y. (1994). "Discourse motivations for some cognitive acquisition principles", *Studies in Second Language Acquisition, 16*: 133-156. https://doi.org/10.1017/S0272263100012845

Ayoun, D. & Salaberry, M. R. (2005). *Tense and Aspect in the Romance Languages: Theoretical and Applied Perspectives*. Amsterdam and Philadelphia: John Benjamins. https://doi.org/10.1075/sibil.29

Bardovi-Harlig, K. (2000). *Tense and aspect in second language acquisition: Form, meaning, and use*. Malden, MA: Blackwell.

Bardovi-Harlig, K. (2002). "Analyzing Aspect", in R. Salaberry & Y. Shirai (eds.) *The Acquisition of Tense-Aspect Morphology.* Amsterdam: John Benjamins, 129-154. https://doi.org/10.1075/lald.27.08bar

Blanco Pena, J. M. (2013). "Escollos lingüísticos de los principiantes chinos de español como lengua extranjera: Causas y sugerencias pedagógica", *Hispania, 96*/1: 97-109. https://doi.org/10.1353/hpn.2013.0026

Bonilla, C. (2013). "Tense or aspect? A review of initial past tense marking and task conditions for beginning classroom learners of Spanish", *Hispania*, *96*: 624-639. https://doi.org/10.1353/hpn.2013.0116

Cadierno, T. (1995). "Formal instruction from a processing perspective: An investigation into the Spanish past tense", *Modern Language Journal*, *79*: 179-193. https://doi.org/10.1111/j.1540-4781.1995.tb05430.x

Camps, J. (2000). Preterit and imperfect in Spanish: The early stages of development. In *Applied Linguisitcs at the End of the Millenium*, R. Leow and C. Sanz, (eds), 1-19. Somerville, MA: Cascadilla Press.

Camps, J. (2002). "Aspectual distinctions in Spanish as a foreign language: The early stages of oral production", *International Review of Applied Linguistics*, *40*: 179-210. https://doi.org/10.1515/iral.2002.010

Camps, J. (2005). "The emergence of the Imperfect in Spanish as a foreign language: The association between imperfective morphology and state verbs", *International Review of Applied Linguistics*, *43*: 163-192. https://doi.org/10.1515/iral.2005.43.3.163

Chin, D. H.-j. (2008). "A cross-linguistic investigation on the acquisition of Spanish aspect. In *Selected Proceedings of the 10th Hispanic Linguistics Symposium*, ed. J. Bruhn de Garavito and E. Valenzuela, 36-50. Somerville, MA: Cascadilla Proceedings Project.

Comrie, B. (1976). *Aspect*. Cambridge: Cambridge University Press.

Cortés, M. (2002). "Dificultades lingüísticas de los estudiantes chinos en el aprendizaje del ELE," *Carabela*, *52*: 77-98.

Dalila, A. & Salaberry, M. R. (2005). *Tense and Aspect in Romance Languages.* Amsterdam: John Benjamins.

Dickerson, L. & Dickerson, W. (1977). "Interlanguage Phonology: Current Research and Future Directions", in P. Corder & E. Roulet (eds.), *Interlanguages, Pidgins and Their Relation to Second Language Pedagogy*. Librairie Droz, Neufchâtel: Faculté des Lettres and Genève, 18-29.

Domínguez, L., Tracy-Venture, N., Arche, M., Mitchell, R. & Myles, F. (2013). "The role of dynamic contrasts in the L2 acquisition of Spanish past tense morphology", *Bilingualism: Language and Cognition*, *16*/3,558-577. https://doi.org/10.1017/S1366728912000363

Ellis, R. (2008). "Interlanguage variability in narrative discourse: Style shifting in the use of the past tense", *Studies in Second Language Acquisition*, *9*/1: 1-19. https://doi.org/10.1017/S0272263100006483

Granger, S. (2003). "The international corpus of learner English: A new resource for foreign language learning and teaching and second language acquisition research", *TESOL Quarterly*, *37*/3: 538-546. https://doi.org/10.2307/3588404

Granger, S. (2009). "The contribution of learner corpora to second language acquisition and foreign language teaching", *Corpora and Language Teaching*, *33*: 13-32. https://doi.org/10.1075/scl.33.04gra

Hasbún, L. (1995). *The Role of Lexical Aspect in the Acquisition of the Tense/Aspect System in L2 Spanish* (Ph.D. dissertation). Indiana University.

Hubert, D. (2013). "The development of speaking and writing proficiencies in the Spanish language, classroom: A case study", *Foreign Language Annals*, *46*/1: 88-95. https://doi.org/10.1111/flan.12010

Hsieh, H.-H. (2005). *A Study of Communication Strategies in Taiwan EFL College Learners' Spoken Language and Written Language* (Master thesis). Retrieved from: http://nccur.lib.nccu.edu.tw/handle/140.119/33399. Last access: June 2019.

Larsen-Freeman, D. (2006). "The emergence of complexity, fluency, and accuracy in the oral and written production of five Chinese learners of English", *Applied Linguistics*, *27*/4: 590-619. https://doi.org/10.1093/applin/aml029

Liskin-Gasparro, J. (2000). "The acquisition of temporality in Spanish oral narratives: Exploring learners' perceptions", *Hispania*, *83*/4: 830-844. https://doi.org/10.2307/346482

Li, P. & Shirai, Y. (2000). *The Acquisition of Lexical and Grammatical Aspect*. New York: Mouton de Gruyter. https://doi.org/10.1515/9783110800715

Li, W. (2012). "Temporal and aspectual references in Mandarin Chinese", *Journal of Pragmatics*, *44*: 2045-2066. https://doi.org/10.1016/j.pragma.2012.09.017

Lin, J-W. (2003). "Temporal reference in Mandarin Chinese", *Journal of East Asian Linguistics*, *12*: 259-311. https://doi.org/10.1023/A:1023665301095

Lin, T.-J. (2005). Corpus de textos escritos por universitarios taiwaneses estudiantes de español. *Lingüística en la Red*, *3*: 1-58.

Lopez-Ortega, N. (2000). "Tense, aspect, and narrative structure in Spanish as a second language", *Hispania*, *83*: 488–502. https://doi.org/10.2307/346038

Lu, H-Ch., Cheng, A. Ch. & Hung, S. Y. (2012). "Corpus escrito de aprendices taiwaneses de español I: Uso y aplicación", *Languages, Literary Studies and International Studies*, *9*: 45-59.

Lu, H-Ch., Cheng, A. Ch. & Hung, S. Y. (2015). "La Adquisición del tiempo-aspecto en L3 para los aprendices Taiwaneses", *Círculo de Linguistica Aplicada a la Comunicación*, *63*: 200-217.

Lu, L.-H. (2016). Corpus-based study of Spanish writing. *Foreign Language Studies, 24:* 145-169*.*

Lubbers-Quesada, M. (2006). "L2 acquisition of Temporal Reference in Spanish and the Interaction of Adverbials, Morphology and Clause Structure", in N. Sagarra and A. J. Toribio (eds.) *Selected Proceedings of the 9th Hispanic Linguistics Symposium*. Somerville, MA: Cascadilla Proceedings Project, 157-168.

Lubbers-Quesada, M. (2007). "La percepción de las propiedades semánticas y la adquisición de la morfología verbal en el español como L2", *Estudios de Lingüística Aplicada*, *44*: 11–36.

Martelle, W. M. (2011). Testing the Aspect Hypothesis in L2 Russian. Dissertation: University of Pittsburgh. Retrieved from http://d-scholarship.pitt.edu/id/eprint/9207. Last access: June 2019.

Mendikoetxea, A. (2014). "Corpus-based Research in Second Language Spanish", in K. L. Geeslin (ed.) *The Handbook of Spanish Second Language Acquisition.* John Wiley & Sons, Inc., 11-29. https://doi.org/10.1002/9781118584347.ch1

Myles, F. (2005). "Interlanguage corpora and second language acquisition research", *Second Language Research*, *21*/4: 373-391. https://doi.org/10.1191/0267658305sr252oa

O'Donnell, M. (2012). *UAM CorpusTool*. http://www.wagsoft.com/CorpusTool/index.html. Last access: June 2019.

Potowski, K. (2005). "Tense and Aspect in the Oral and Written Narratives of Two-Way Immersion Students", in D. Eddington (ed.) *Selected Proceedings of the 6th Conference on the Acquisition of Spanish and Portuguese as First and Second Languages.* Somerville, MA: Cascadilla Proceedings Project, 123-136.

Ramsay, V. (1990). *Developmental Stages in the Acquisition of the Perfective and the Imperfective Aspects by Classroom L2 Learners of Spanish* (Ph. D. dissertation). University of Oregon, Oregon, USA.

Ruiz-Debbe, L. D. (2005). "Grammatical development of past tense in learners Spanish as L2: Oral and written productions", in J. Cohen, K. T. McAlister, K. Rolstad & J. MacSwan (eds.) *Proceedings of the 4th International Symposium on Bilingualism*. Somerville, MA: Cascadilla Press.

Salaberry, R. (1999). "The development of past tense verbal morphology in classroom L2 Spanish", *Applied Linguistics*, 20: 151-178. https://doi.org/10.1093/applin/20.2.151

Salaberry, R. (2000). *Spanish Past Tense Aspect: L2 Development in a Tutored Setting.* Amsterdam: John Benjamins.

Salaberry, R. (2003). "Tense aspect in verbal morphology", *Hispania*, *86*: 559-573. https://doi.org/10.2307/20062909

Salaberry, R. (2008). *Marking Past Tense in Second Language Acquisition: A Theoretical Model*. New York: Continuum.

Salaberry & Ayoun (2005). "The Development of L2 Tense-Aspect in the Romance Languages", in *Tense and Aspect in Romance Languages: Theoretical and Applied Perspectives*, 1-33. https://doi.org/10.1075/sibil.29.03sal

Salaberry, R. & Shirai, Y. (2002). *The L2 Acquisition of Tense Aspect Morphology*. Philadelphia: John Benjamins Publishing. https://doi.org/10.1075/lald.27

Schmidt, T. (2011). *Partitur-Editor of EXMARaLDA*. http://www.exmaralda.org/tool/partitur-editor/

Shirai, Y. & Andersen, R. (1995). The Acquisition of Tense-Aspect Morphology: A Prototype Account, Language, *71*/4: 743-762. https://doi.org/10.2307/415743

Skehan, P. (2009). "Modelling Second Language Performance: Integrating Complexity, Accuracy, Fluency, and Lexis." *Applied Linguistics, 30*/4: 510-532. https://doi.org/10.1093/applin/amp047

Tarone, E. (1979). "Interlanguage as chameleon", *Language Learning*, *29*: 181-191. https://doi.org/10.1111/j.1467-1770.1979.tb01058.x

Tarone, E. (1985). "Variability in interlanguage use: A study of style-shifting in morphology and syntax", *Language Learning*, *35*: 373-403. https://doi.org/10.1111/j.1467-1770.1985.tb01083.x

Vendler, A. (1967). *Linguistics in Philosophy*. Ithaca, NY: Cornell University Press.

Weisser, M. (2016). *Corpus-based Linguistics Links*. http://martinweisser.org/corpora_site/CBLLinks.html. Last access: June 2019.