

Interplay between Forward and Backward Transfer in L2 and L1 Writing: The Case of Chinese ESL Learners in the US¹

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This paper focuses on the issue of language transfer in an L2 environment. Research has shown that forward transfer from L1 to L2 appears at early stages and decreases as L2 proficiency increases. Additionally, there is evidence to suggest that backward transfer from L2 to L1 may occur in an L2 environment in which subsequent contact to L2 is limited or in an L2 academic community in which confirming evidence that L1 syntax is correct is lacking. The study of this paper investigates Chinese and Spanish learners across three English proficiency levels, who wrote in L1 and L2 at U.S. graduate schools. All participants completed sentence and discourse tasks. It is found that forward transfer occurred in the Chinese learners' L2 writing at the discourse level and that backward transfer occurred in their L1 writing at the sentence level. Moreover, both forward transfer and backward transfer are mitigated by L2 proficiency. Furthermore, among the Level 2 Chinese learners, the relationship between forward transfer and L2 proficiency in the English sentence task follows a U-shaped curve, and the relationship between backward transfer and L2 proficiency in the Chinese sentence task also follows a U-shaped curve. The results of this study point to the complexity of language transfer and its interactions with L2 proficiency and distinctive task types.

Key words: language transfer, forward transfer, backward transfer, the U-shape curve, Principal Branching Direction (PBD), Principle of Temporal Sequence (PSE), crosslinguistic learner performance comparison, contrastive research, metalinguistic and crosslinguistic awareness

1. Introduction

One of the major issues in the field of Second Language Acquisition (SLA) is the role of language learners' first language (L1) in the acquisition of a second language (L2). There is a question as to whether an erroneous or non-target-like L2 element (e.g. 'Chinese English' in Taiwan) is the result of L1 transfer or of creative construction². This element is generally taken to be evidence of transfer (i.e. interlingual effects)³ if the presence of an L2 element is patterned on analogy to L1, whereas it is argued to be indicative of creative construction (i.e. intralingual effects) if the presence of an L2 element mirrors the one observed in L1 acquisition

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² Creative Construction is defined by Dulay, Burt and Krashen (1982:11-12) as "the subconscious process by which language learners gradually organize the language they hear, according to rules that they construct to generate sentences. The form of the rules is determined by mental mechanisms responsible for human language acquisition and use."

³ In this paper, 'forward transfer', 'interlingual effects', and 'native language (NL) influence' are used interchangeably.

(Ellis 1994). ESL teachers and SLA researchers have long been aware that ESL learners often have difficulties with academic writing in English (Lieber 1980, Reid, 1989). According to Kaplan (1966, 1983), rhetoric, in the sense of how information is arranged in writing, is shaped by culture and that there is a preference for a certain rhetorical pattern in each particular culture. Differences in rhetorical preference often have meant a clash between what they have learned in their native languages and cultures and what is expected of them from native speakers of English. As a result, ESL learners tend to transfer their L1 rhetorical patterns when they write in English.

However, the term transfer implies more than simply the effects of the L1 on the L2; the L2 also influences the L1 (Brown 2000, Su 2001, Cook 2003). This can be attested by numerous research which indicates that the effects of the L2 on the L1 play a central role in L2 environments. For instance, Sharwood Smith (1983) found, based on preliminary findings from a project in Utrecht, that native speakers of English, which is a high-status foreign language in the Netherlands, nevertheless underwent changes in their L1 English. Additionally, De Bot, Gommans, and Rossing (1991) examine Dutch immigrants in France and report that the Dutch informants' L1 proficiency decreased over time when they had few contacts with L1 Dutch. Moreover, Carson and Kuehn (1994) investigate Chinese students across three English proficiency levels who wrote in L1 Chinese and L2 English in U.S. pre-academic intensive English programs, universities, and graduate schools. They found evidence that L1 Chinese writing proficiency declined as L2 English writing proficiency increased. More recently, Su (2001) examines transfer patterns at sentence level processing among L2 learners of English and Chinese across three proficiency levels. It is found that L2 learners not only used their L1 strategies in processing the L2 (forward transfer), but also applied their new L2 strategies in processing the L1 (backward transfer).

The purpose of this paper is two-fold. First, on the theoretical level, it is intended as a contribution to the understanding of how language learners' L2 acquisition is affected by their L1 knowledge (forward transfer) and how language learners' L1 skills are in turn affected by their L2 proficiency (backward transfer). Researchers have long recognized that forward transfer from L1 to L2 appears primarily at the early stages of the learners' interlanguage (IL) and decreases as their L2 proficiency increases (e.g. Taylor 1975, Kellerman 1979, Major 1986, Chan 2004). Additionally, it has been suggested that backward transfer from L2 to L1 may occur in an L2 environment where L2 learners have limited contact with their L1 or in an L2 academic community in which confirming evidence that L1 syntax is correct is lacking (e.g. Seliger 1991, Seliger and Vago 1991, Sharwood Smith and

Van Buren 1991, Carson and Kuehn 1994). Specifically, the study of this paper investigates the claim that the non-target-like L2 pattern of *because-initial* information sequencing frequently found in the writing of Chinese ESL learners is the result of Chinese to English forward transfer, due to the fact that this L2 English pattern corresponds to L1 Chinese discourse conventions (Lay 1975, Chiang 1981, Young, 1982). This article further seeks to identify how language transfer in general may relate to L2 proficiency. Secondly, on the pedagogical level, the purpose is to provide information for ESL teachers of writing in order to enable them to design more effective methods and materials for teaching writing to Chinese ESL learners. Thus, this paper is set up to provide data for addressing the following two research questions.

1. To what extent is the non-target-like L2 pattern of *because-initial* information sequencing in the L2 writing of Chinese ESL learners a function of Chinese to English *forward* transfer and how does forward transfer, if found to occur, relate to L2 English proficiency?
2. To what extent is the L1 discourse pattern of *because-initial* information sequencing in the L1 writing of Chinese ESL learners a function of English to Chinese *backward* transfer and how does backward transfer, if found to occur, relate to L2 English proficiency?

2. Linguistic pattern under investigation

Some fundamental issues raised by information sequencing in Chinese and English are highlighted with reference to linguistic, sociolinguistic, and psycholinguistic aspects.

2.1 Linguistic aspects of information sequencing

It has been well documented that, in general language use, the preferred or unmarked sequence in Chinese complex sentences is for the subordinate clause (SC) to precede the main clause (MC). Wang (1984:96) observes that “in Chinese, the main component comes at the end, and the subordinate component comes at the beginning”. Li and Zhang (1986) also indicate that the natural clause sequence in Chinese complex sentences is subordinate-to-main clauses (SC—MC), although the salient and less common main-to-subordinate clause (MC—SC) sequence is possible (Osgood 1980). Kirkpatrick provides an example which illustrates the most common SC—MC sequence in Chinese in (1) (Kirkpatrick 1993:31).

- (1) yinwei feng tai da suoyi bisai gaiqi-le
 Because wind too big, so competition change time-A.
 ‘*Because* the wind was too strong, the competition was postponed.’

Example (1) is a causality sentence in which the conjunction *yinwei* (*because*) appears in the sentence-initial position. Additionally, Scollon (1993) indicates that there are two main structures in which *because* is used in English. The unmarked structure is as follows.

X because Y

where Y is taken to be the cause of X or explanation of X. The marked structure is

Because Y, X

Other researchers also point out that in the sequence of English main and subordinate clauses, the unmarked sequence has the main clause first (Clark and Clark 1977, Quirk, Greenbaum, Leech and Svartvik 1985, Prideaux and Hogan 1993). For example, in a study of 40 Chinese letters of request, Kirkpatrick (1991) demonstrates that the unmarked SC—MC sequence in complex sentences is also a fundamental principle for sequencing the information in discourse. He provides the English translation of a Chinese letter which reveals the Chinese writing preference for prefacing a request with reasons as noted in (2) (Kirkpatrick 1991:195).

- (2) (Because) I was listening to a program last night (*date*) and heard the news that a lady colleague who had returned from Singapore was offering New Year's gifts, this excited my interest. I hope that she can send me some gifts and a photograph of herself, but because I have rudely forgotten her name, I hope you can take the trouble....

Kirkpatrick notes that the request—for some gifts and a photograph—in the body of the letter is preceded by the two reasons for the request, both following the *because-initial* sequencing.

The contrastive information sequencing in Chinese and English is also consistent with the notion of Principal Branching Direction (PBD)⁴. Chinese and English are

⁴ Principal Branching Direction is defined by Lust (1983:138) as “the branching direction which holds consistently in unmarked form over major recursive structures of a language, where ‘major recursive structures’ are defined to include relative clause[s], adverbial subordinate clause and sentential

categorized as typologically distinctive languages with respect to the PBD: Chinese is a left-branching language, while English is largely a right-branching language⁵. This typological distinction accounts for the Chinese preference for an SC—MC sequence and the English preference for an MC—SC sequence.

2.2 Sociolinguistic aspects of information sequencing

Young (1982), in her analysis of Chinese subjects' spoken English, argues that different ways of structuring information receive different social evaluations or rankings. She demonstrates that Chinese speakers prefer to delay their topic or thesis statement until supporting statements have been given as in the following example (Young 1982:77).

- (3) Theta: One thing that I would like to ask. BECAUSE MOST OF OUR RAW MATERIALS ARE COMING FROM JAPAN AND THIS YEAR IS GOING UP AND UP AND IT'S NOT REALLY I THINK AN INCREASE IN PRICE BUT WE LOSE A LOT IN EXCHANGE RATE AND SECONDLY I UNDERSTAND WE'VE SPEND A LOT OF MONEY IN TV AD LAST YEAR. *So, in that case I would like to suggest here: chop half of the budget in TV ads and spend a little money on Mad magazine.*

As indicated by Young, the subordinate marker *because* initiates the listing of reasons in the supporting statements (capitalized), which establish the situational framework for evaluating the significant information to follow in the main clause (italicized). Young argues that Chinese speakers tend to minimize confrontation in formal social relationships, and this can be traced to culture-specific notions of acceptable discourse strategies. Chinese speakers find it uncomfortable to introduce their request at the outset, and thus by sequencing information differently from English native speakers, Chinese speakers are actually displaying a culturally appropriate discourse strategy: i.e. they are minimizing the imposition by exerting 'negative politeness' (Brown and Levinson 1987). Young concludes that there are correspondences between linguistic behavior and social evaluation and that difficulties in cross-cultural interactions will tend to occur when speakers are faced with an unfamiliar sociolinguistic tradition.

In the same vein, Scollon and Scollon (1991) claim that confusion in intercultural communication often arises as a result of differing discursive strategies in the placement of the topic statement. The Chinese discourse convention is an

complementation.”

⁵ That is, English allows for left-branching at the word level (e.g. a *rich man*), but is right-branching at the phrase (e.g. a *man of wealth*) and the sentence (e.g. This is the *man whom I met yesterday*) levels.

inductive one: i.e. the topic, such as a request, is generally deferred until after a considerable amount of discourse (and even “small talk”) which encodes reasons is provided. This reason-request sequence is the inverse of the deductive Western discourse pattern, in which the topic statement is given first and then followed by the supporting arguments, as exemplified by Schiffrin (1987:207) in (4).

(4) Can you work any of this with just the two of us, or you'll have to wait for Irene?

Cause I don't know how long she'll be.

In (4), the speaker made a request (accomplished by an indirect question)—Can we do without Irene?—and then gave a reason for it. However, to place a request at the beginning is deemed presumptuous in Chinese conversation, where the small talk is valued as a kind of extended ‘facework’ (Goffman 1967) that can mitigate the imposition later to appear in the topic statement. According to Scollon and Scollon, the Chinese inductive pattern of topic introduction is a natural outcome of interpersonal relationships, and the linguistic structure of SC—MC information sequencing which facilitates this interpersonal position is thus preferred.

2.3 Psycholinguistic aspects of information sequencing

The psycholinguistic aspects of information sequencing are pertinent to the concept of iconicity. For example, Ungerer and Schmid (1996:251) describe the Principle of Iconic Sequencing as “the sequence of two clauses corresponds to the natural temporal order of events”. They provide the example in (5).

(5) He opened the bottle and poured himself a glass of wine.

*He poured himself a glass of wine and opened the bottle.

Here the first sentence clearly corresponds to the natural temporal order of events; the second sentence is unacceptable because the order in which the clauses are arranged violates the principle of iconic sequencing, although not ungrammatical according to the rules of syntax.

Sequential iconicity is best illustrated by Clark (1977) in the context of language development in children. Clark proposes that children utilize the Order of Mention Strategy in processing sentences. That is, children tend to interpret the order of mention of events as the linear (temporal) order of the events used as the reference point. Several research findings have corroborated that both Chinese and American

children encounter comprehension difficulty when the order of mention of events conflicts with the temporal order of events specified by the sentence (e.g. Kuo 1985, Kwoh 1997). Thus, it appears that children's comprehension difficulty is largely one of organizing or representing information in the mind, rather than a purely 'linguistic comprehension' problem (Chang 1991).

The notion of sequential iconicity in Chinese is substantively explicated by Tai (1985, 1993), who has posited the Principle of Temporal Sequence (PTS): "the relative word order between two syntactic units is determined by the temporal order of the states which they represent in the conceptual world" (1985:50). According to the PTS, when two Chinese sentences are linked by temporal connectives, the first event always precedes the second one and the reverse is not possible as illustrated in (6).

- (6) ni gei wo qian cai neng zou
 You gave me money then can leave
 'You can't leave until you give me the money.'

The Chinese sentence in (6) would be ill-formed if the second event ("then can leave") were ordered before the first event ("You give me the money"). Thus, the iconic nature of information sequencing in Chinese suggests a close parallel between surface linguistic behavior and underlying cognitive activities.

The SC—MC information sequencing in Chinese is also consistent with the PTS, since the cause (reason) always precedes the effect (consequence) in real time. However, the English translation in (6) shows that conjoined sentences in English need not incorporate the cognitive structure of the PTS, because the normal clause order in English is not constrained by the sequence of events. Hence, in terms of word order, Chinese is more iconic than English. Although psycholinguistic studies have revealed that human cognition and perception do not seem to vary considerably (e.g. Kwoh 1997), the linguistic patterns used to encode the conceptual principles in each culture may differ to a great extent, as exemplified by the disparate preferences for sequencing information in Chinese and English.

2.4. Summary

This section illustrates that the preferred or unmarked information sequence in Chinese follows an SC—MC order from the linguistic, sociolinguistic, and psycholinguistic perspectives. At the linguistic level, it has been shown that Chinese prefers to preface a main part with a subordinate one at both the sentence

and discourse levels, which reflects its typological feature as a left-branching language. At the sociolinguistic level, it has been pointed that a common Chinese discourse strategy is to introduce reasons at the outset and provide the intended request at the end. This inductive discourse pattern is to minimize imposition and maintain social relationship. At the psycholinguistic level, the unmarked SC—MC information sequencing (e.g. reason/cause precedes request/consequence) in Chinese reflects the iconic nature of word order in Chinese, which follows the conceptual principle of the PTS in actual time. By contrast, it is indicated that English generally follows an MS—SC information sequencing, prefers a deductive discourse pattern, and is less iconic in word order than Chinese. Thus, the study of this paper is to examine if Chinese ESL learners would use their preferred L1 SC—MC information sequencing in their L2 English writing and if they would use the unmarked L2 MS—SC information sequencing in their L1 Chinese writing. The following research design is set and the data are collected and analyzed statistically to address these two research questions raised earlier in this study.

3. Research design

3.1 Participants

While a contrastive approach is a necessary condition for determining the possibility of interlingual effects, it is not a sufficient one (Odlin 1989, Ellis 1994). The fact that an L1 pattern occurs in both L1 and L2 does not constitute sufficient evidence that transfer from L1 to L2 has taken place, since there can be other causes such as IL developmental factors (Rutherford 1987) or L2 learners' lack of familiarity with the TL norms (Mohan and Lo 1985, Fakhri 1994). Thus, it is essential to incorporate into research design a crosslinguistic learner performance comparison that includes at least two language groups in which one group has the relevant pattern in the L1 and the other does not. If the data analysis further indicates a statistically significant difference between the two language groups with respect to the linguistic pattern under investigation, a claim that NL influence has occurred in the ILs of the learners would be then justified. Otherwise, interlingual or intralingual (i.e. developmental) effects as the sole explanation for the occurrence of a non-target-like L2 pattern in learners' ILs would be equally questioned.

Therefore, the present study has included two ESL groups which constitute an experimental group and a control group. As mentioned earlier, Chinese is a left-branching language and English is a right-branching language. This typological distinction is reflected from the unmarked SC—MC (*because-initial*)

information sequencing in Chinese and the unmarked MC—SC (*because-medial*) information sequencing in English. Spanish, like English, is a right-branching language, and therefore Spanish native speakers should prefer the unmarked MC—SC information sequencing in the L1. This unmarked preference is further supported by a survey of eight native speakers of Spanish⁶. Thus, the Chinese ESL group, as the purpose of this investigation, is assigned to the experimental group. The Spanish ESL group, as a methodological requirement, is assigned to the control group.

Additionally, according to Demaris (1992), statistical inference in logistic regression relies largely on the asymptotic behavior of sample statistics, that is, the sampling distribution of deviance becomes closer and closer, or “converges” to the *Chi-squared* distribution as the sample size increases toward infinity. In order for these asymptotic properties to be approximately valid, the average cell or level size (that is, the sample size divided by the number of cells or levels) should be at least five. The same minimum requirement for sample size in inferential statistics is also indicated in Hatch and Lazaraton (1991). Based on the statistical considerations, this study has recruited a sample size of 24 for each ESL group, with eight participants on each proficiency level. The participants in the experimental group are 24 Chinese native speakers from Taiwan, and those in the control group are 24 Spanish native speakers from Spain. Eight native speakers of American English are further recruited as a baseline group for data comparison with the ESL groups. Thus, the database contains a total of 56 graduate students drawn from various departments at three universities in the Greater Philadelphia area.

Moreover, all ESL participants hold a bachelor’s degree in their native countries to ensure that the acquisition of the relevant linguistic pattern in their L1s has been completed through both formal and informal input. This extra criterion is based on research findings that suggest writing skills which have never been acquired in the L1 cannot be transferred to the L2 (Cummins 1981, John and Tetroe 1987).

⁶ Eight native speakers of Spanish from three academic communities were surveyed by the present author for their use of [a] *Because* A, B and [b] *B because* A in their L1 (Spanish). Their responses are indicated as follows. (1) Three ESL students from the Dominican Republic indicate that [a] is ungrammatical; (2) A community college student from Ecuador indicates that [a] is not commonly used; (3) A community college teacher from Ecuador indicates that both [a] and [b] are okay, but that [b] is better; (4) An ESL teacher from Puerto Rico indicates that [b] is better; (5) a Ph.D. student from Bolivia, who majors in philosophy, indicates that [b] is the common form, while A sounds “poetic”; and (6) a Ph.D. student from Spain, who majors in linguistics, indicates that both forms are correct, but that [a] is unusual. In summary, the *because-medial* structure (i.e. *Because* A, B) is either considered to be marked or ungrammatical by the Spanish native speakers surveyed.

3.2 English proficiency

It has been noted that a major methodological flaw of many earlier contrastive research is the lack control for L2 English proficiency in making claims about transfer of L1 rhetorical patterns or discourse structure in learners' L2 production (Hinds 1982, 1983, Burtoff 1983). For instance, it has been claimed by a few previous contrastive studies conducted without reference to L2 proficiency that Arabic and Hebrew L1 writers are apt to transfer L1 rhetorical patterns, such as repetition and parallelism in their L2 English writing (e.g. Berman 1980, Ostler 1987). However, other researchers have found that low English proficiency writers, no matter if English is their first or second language, tend to use repetition and parallelism for cohesive purposes (e.g. Jacobs 1982, Scarcella 1984).

Thus, in assessing possible effects of L2 English proficiency on language transfer in this study, each of the two ESL groups is further divided into three proficiency levels on the basis of their TOEFL score. Specifically, Level 1 participants obtain TOEFL scores in the 500-547 range, Level 2 participants obtain TOEFL scores in the 550-597 range, and Level 3 participants have TOEFL scores in the 600-650 range. Since all the ESL participants are graduate students at American universities, their English proficiency levels for this study are based on their graduate school admission TOEFL scores. For most universities, international students with a TOEFL score in the 500-547 range may be granted probational admission into graduate studies, but they are required to take courses to upgrade their English in a university-affiliated English language program in addition to regular university courses. To be considered for full admission into graduate studies at an American university, international students must score at least 550 on the TOEFL. To further apply for a teaching assistantship, the minimal admission score is usually 600.

3.3 Materials

Early contrastive analyses which focus on sentence-level analysis are under attack for describing errors in isolation. Contrastive rhetoric studies are criticized for concentrating on L1-L2 surface differences and similarities. More recent research calls for an awareness that there is often an interaction between different levels of analysis—e.g. syntax and discourse—such that they need to be examined simultaneously. This study thus consists of two instruments to investigate the participants' linguistic performance at both the sentence and discourse levels. The first instrument is a sentence-combining task (SCT) designed to elicit the pattern of

because-initial information sequencing (or alternatively termed *because-initial* structure) in a complex sentence. The second instrument is a discourse task (DT) designed to elicit this pattern in discourse.

3.3.1 The sentence-combining task (SCT)

The SCT contains 20 test items in five semantic relations, encompassing causality, concession, contrast, condition, and temporality. The semantic relation of *causality* is the purpose of this task and other semantic relations merely function as distracters. Therefore, out of the 20 test items, 12 target items focus on *causality*, as signaled by *because*, to elicit the linguistic pattern at the sentence level. The remaining 8 test items contain the other four semantic relations, which were conveyed by conjunctions such as *whereas*, *before*, *though*, and *unless* as illustrated in the English SCT in Table 1 below.

Table 1. Semantic relations in the English SCT⁷

(1) a. He arrived late at the station. b. He missed the morning train.	(causality: <i>because</i>)
(2) a. They want to live in a fancy big house. b. We would rather live in an apartment.	(contrast: <i>whereas</i>)
(3) a. Prices are going up. b. We'd better something.	(temporality: <i>before</i>)
(4) a. He is always late for work. b. He gets up early every morning.	(concession: <i>though</i>)
(5) a. I am forced to stay inside because of the rain. b. I usually go out for a walk early every day.	(condition: <i>unless</i>)

Additionally, the combining order in the SCT is flexible to allow the present author to see if *because-initial* structure occurs in a complex sentence. Moreover, the sentence pairs to be combined are all independent sentences, and the sentence order of potential *because*-clauses is counter-balanced lest the participants would combine each pair of sentences in the order in which they occur. The examples below illustrate the counter-balanced order and independent nature of the sentences to be combined which signal the semantic relation of *causality* as indicated in Table 2.

⁷ The semantic relations provided in parentheses do not appear in actual tasks. For a complete set of the English, Spanish, and Chinese tasks, see Appendices 2.1, 2.2, and 2.3.

Table 2. The counter-balanced sentence-combining order for the test items on causality

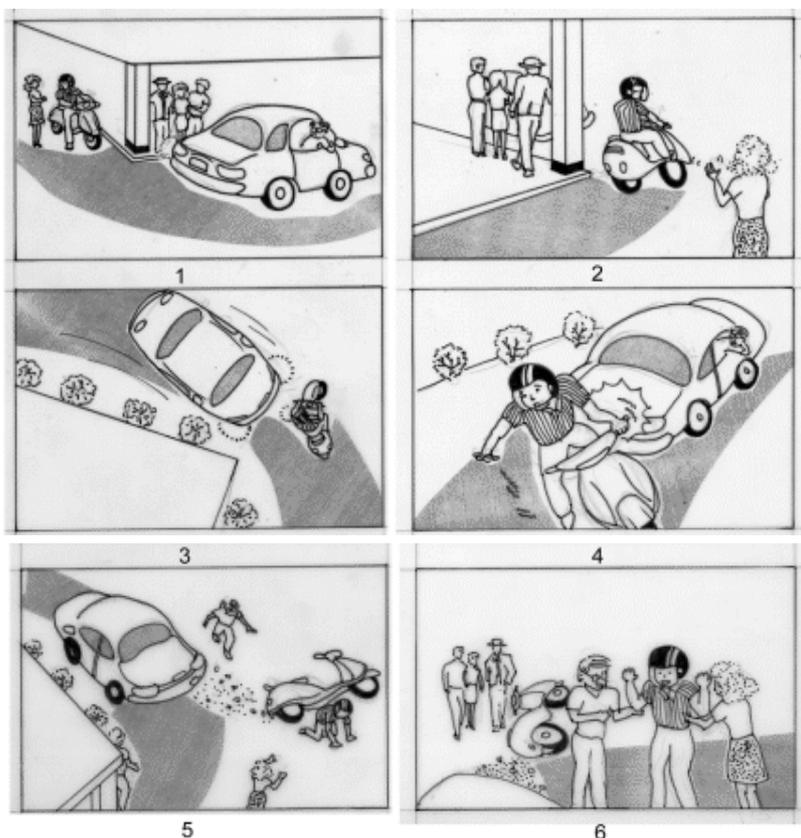
(1) a. He arrived late at the station b. He missed the train.	(reason) (consequence)
(2) a. He has to work hard in his old age. b. He was idle in his youth.	(consequence) (reason)

3.3.2 The discourse task (DT)

In the DT, the ESL learners are asked to write a narrative of 150-200 words from six sequential pictures. For each picture, the ESL learners are instructed to explain why an activity is taking place. It is hoped that by providing a reason for the activity in each picture, the ESL learners will have least six opportunities to produce the linguistic pattern under investigation at the discourse level. In other words, there is a potential number of 144 tokens for the 24 participants in each ESL group (6 x 24) to produce either the *because-initial* structure (native-like L1 Chinese pattern) or *because-medial* structure (target-like L2 English pattern) at the discourse level. Thus, dividing the actual tokens of occurrence by the 144 potential tokens of occurrence will reveal the two ESL groups' preference for sequencing information at the discourse level. An example of the DT is given in Figure 1.

Figure 1. The Discourse Task⁸

You will see a series of six pictures. In each of these pictures, **AN ACTIVITY** is going on. Please write a narrative of about 150-200 words in English that describes the sequence of the activities. For example, in picture one, the worker is putting a sign on the bench. Go through each picture and explain **WHY** that activity is happening. Make sure that you do this for **EACH PICTURE**, as you construct your narrative. You will have 20 minutes to complete this task.



3.4. Procedures

There are two different sets of tasks (i.e. two SCTs and two DTs), one in the participants' L1s and the other in their L2 English. The L1 tasks are in English, Chinese, and Spanish, and are completed by the American, Chinese, and Spanish participants. The American participants complete L1 tasks to establish the English baseline; this ends their participation in this study. The Chinese and Spanish ESL participants have a 2-part procedure. They first complete one set of tasks in one language and then complete the other in another language. The L1 tasks they complete are syntactically identical to but semantically different from the L2 tasks

⁸ Only the self-drawn picture series in the L1 DT are included in this article. The L1 Chinese/Spanish DT is identical in format to the L2 English DT but different in the picture contents. The picture series on the English SCT is an excerpt from a TSE (Test of Spoken English) materials issued by Educational Testing Service (ETS). Permission for using the picture series in this study is granted by ETS, but the copyrighted picture series are not to be distributed or published by the author.

they complete. This is necessary to ensure that they would not be completing the exact same sets of tasks, only in a different language. In addition, the presentation of L1/L2 task order to the Chinese and Spanish ESL participants is counter-balanced to control for possible practice effects: half of the Chinese and Spanish ESL participants receive the L1/L2 task order, and the other half receive the L2/L1 task order.

4. Results

4.1 The first research question

The first research question concerns issues related to forward transfer and L2 proficiency. In order to address the first part of this question, it is hypothesized that

- (1a) Chinese ESL learners, when writing in English, will supply significantly more of the non-target-like L2 pattern of *because-initial* information sequencing at both the sentence and discourse levels, which resembles that of their L1, than will Spanish ESL learners who do not prefer this pattern in their L1.

The overall performance of *because-initial* and *because-medial* information sequencing produced by the Chinese and Spanish ESL groups in the English SCT and English DT is first provided in relative frequencies and followed by significance tests as indicated in Table 3 and Table 4, respectively.

Table 3. The relative frequencies of using information sequencing by the Chinese and Spanish ESL groups in the English SCT and English DT

ESL Groups	The English SCT				The English DT			
	<i>because-initial</i>		<i>because-medial</i>		<i>because-initial</i>		<i>because-medial</i>	
Chinese	99	38.22%	160	61.78%	32	52.46%	29	47.54%
Spanish	19	7.88%	222	92.12%	3	4.48%	64	95.52%

As indicated by the descriptive statistics in Table 3, the Chinese ESL group appears to use more of *because-initial* structure than the Spanish ESL group in both the English SCT (38.22% vs. 7.88) and the English DT (52.46% vs. 4.48%). However, the number of *because-initial* structure used by the Chinese ESL group in the

English tasks must significantly exceed the number used by the Spanish ESL groups in order to argue for the existence of interlingual effects (i.e forward transfer) from L1 Chinese to L2 English. Thus, to determine if such interlingual effects exist, significant tests are conducted to assess the evidence provided by the sample data as given in Table 4.

Table 4. Difference between Chinese and Spanish ESL groups in their use of *because-initial* structure in the English SCT and English DT

Tasks	Null Deviance	Residual Deviance	Dispersion	<i>df</i>	χ^2
English SCT	252.5044	183.6215	3.4847	1	19.76**
English DT	95.4097	54.1442	1.5333	1	26.91**

** $p < 0.01$ *df* = degrees of freedom

As seen in Table 4, the results of inferential statistics using the Chi-square test show that there is a significant difference between the performance of these two ESL groups in both English tasks ($p < 0.01$). The statistical results indicate that the two ESL groups have significantly different tendencies in sequencing information at both the English sentence and discourse levels. The Chinese ESL group exhibits a distinctive preference for using *because-initial* information sequencing, whereas the Spanish ESL group shows a greater tendency to use *because-medial* information sequencing. Hypothesis (1a) is therefore supported.

The second part of the first research question addresses the extent to which forward transfer relates to L2 English proficiency. Based on previous research findings that forward transfer decreases as L2 proficiency increases, it is hypothesized that

- (1b) There is a negative relationship between L2 English proficiency and the non-target-like use of *because-initial* information sequencing in the L2 writing of Chinese ESL learners at both the sentence and discourse levels.

The overall performance of *because-initial* information sequencing produced by the Chinese ESL groups in the English SCT and DT across proficiency levels is first provided in frequency distributions and followed by significance tests as indicated in Table 5 and Table 6, respectively.

Table 5. The relative frequencies of using information sequencing by the Chinese ESL groups across three proficiency levels in the English SCT and English DT

Participants	The English SCT				The English DT			
	<i>because-initial</i>		<i>because-medial</i>		<i>because-initial</i>		<i>because-medial</i>	
Level 1	58	69.05%	26	30.95%	16	69.57%	7	30.43%
Level 2	11	13.75%	69	86.25%	11	55%	19	45%
Level 3	30	31.58%	65	68.42%	5	27.78%	13	72.13%
Chinese Total	99	38.22%	160	61.78%	32	52.46%	29	47.54%

As indicated by the descriptive statistics in Table 5, the Chinese ESL group exhibits different use of the *because-initial* structure at different proficiency levels in both English tasks. To determine if the differences among the three Chinese subgroups achieve statistical differences, inferential statistics using the Chi-square are further conducted as indicated in Table 6.

Table 6. The overall relationship between L2 English proficiency and the use of *because-initial* structure among the Chinese ESL group in the English SCT and English DT

Tasks	Null Deviance	Residual Deviance	Dispersion	<i>df</i>	χ^2
English SCT	137.2334	79.1889	3.3983	2	17.81**
English DT	35.1894	27.8360	1.0617	2	6.93*
**<i>p</i> < 0.01	*<i>p</i> < 0.05	<i>df</i> = degrees of freedom			

The results of inferential statistics reveal a significant difference among the three English proficiency levels in both the English SCT ($p < 0.01$) and the English DT ($p < 0.05$). Given that statistical results indicate a significant effect of L2 proficiency on the production of *because-initial* structure in both English tasks, a one-tailed *t*-test⁹ is further conducted to locate the exact differences among the three L2

⁹ Whether a *one-tailed* or *two-tailed t*-test is used depends on if the direction (either positive or negative) of the alternative hypothesis is specified. On the basis of previous research, if a researcher finds a strong relationship between a dependent variable and the dependent variable(s), then the *direction* of that relationship can be specified; that is, whether there will be higher (positive) or lower (negative) than more typical scores. But since no direction is specified for the null hypothesis, it is necessary to consider both tails of the distribution. Therefore, a null hypothesis is called a two-tailed or nondirectional hypothesis. In contrast, an alternative hypothesis can be either a two-tailed (nondirectional) or one-tailed (directional) hypothesis, depending on if the direction has been specified (Hatch and Lazaraton 1991). In this study, a *one-tailed t*-test is used in testing hypothesis (1b) since it has been stated in a *directional* form, based on abundant evidence

proficiency levels.

4.1.1 The English SCT

A significant difference is found in all three pairs of English proficiency levels ($p < 0.01$), between Level 1 and Level 2, Level 1 and Level 3, and Level 2 and Level 3, in the English SCT as noted in Table 7.

Table 7. Differences in the use of *because-initial* structure among the pairs of English proficiency levels of the Chinese ESL group in the English SCT

Level	Level 1	Level 2	Level 3
Log odds	0.8266	0.2205	-0.9555
Level 1		-6.5752**	-4.8756**
Level 2			-2.7084**

** $p < 0.01$

The frequency rate of using *because-initial* structure by the Chinese ESL group across the three proficiency levels in the English SCT, as indicated in Table 5 earlier, is 69.05% at Level one, 13.75% at Level 2, and 31.58% at Level three. The numerical differences can be further illustrated in Figure 2.

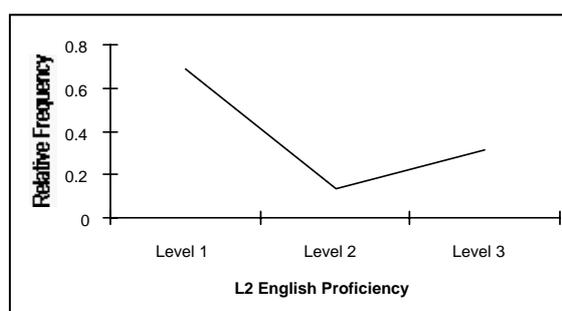


Figure 2. The frequency rate of using *because-initial* structure among the three English proficiency levels of the Chinese ESL group in the English SCT

Figure 2 exhibits a pattern in which the frequency rate across the three proficiencies is initially high (Level 1), then declines (Level 2), and rises again (Level 3). Hypothesis (1b) is not supported at the *sentence* level, since the relationship between forward transfer and L2 proficiency is not a strictly negative one.

from prior research that forward transfer from L1 to L2 is in a negative relationship to L2 proficiency.

4.1.2 The English DT

A significant difference is found between Level 1 and Level 3 ($p < 0.01$), and between Level 2 and Level 3 ($p < 0.05$) in the English DT. Moreover, there is a statistical trend in the difference between Level 1 and Level 2 ($p < 0.17$), although not significant at the 0.05 level. Statistical results are displayed in Table 8.

Table 8. The frequency rate of using *because-initial* structure among the three English proficiency levels of the Chinese ESL group in the English DT

Level	Level 1	Level 2	Level 3
Log odds	0.8266	0.2205	-0.9555
Level 1		-0.9808	-2.5663**
Level 2			1.7707*

** $p < 0.01$, * $p < 0.05$

The frequency rate of using *because-initial* structure by the Chinese ESL group across the three proficiency levels in the English DT, as indicated in Table 5 earlier, is 69.57% at Level one, 55% at Level 2, and 27.78% at Level three. The numerical differences can be further illustrated in Figure 3.

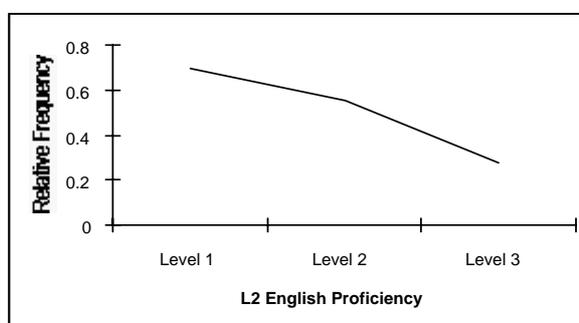


Figure 3. The frequency rate of using *because-initial* structure among the three English proficiency levels of the Chinese ESL group in the English DT

Figure 3 shows a downward linear curve. Thus, it is clear that the relationship between L2 proficiency and L1 transfer is in a negative direction. That is, the more advanced the Chinese participants are in L2 English proficiency, the fewer this non-target-like pattern they tend to produce in their L2 writing, and vice versa. Hypothesis (1b) is therefore supported at the *discourse* level.

4.2 The second research question

The second research question concerns issues of how backward transfer, if found to occur, relates to L2 proficiency. Based on previous research findings that L1 skills may decline in an L2 environment, it is hypothesized that

- (2) There is a relationship between L2 English proficiency and the use of the L1 rhetorical pattern of *because-initial* information sequencing in the L1 writing of Chinese ESL learners at both the sentence and discourse levels.

The overall performance of *because-initial* information sequencing produced by the Chinese ESL groups in the Chinese SCT and Chinese DT across proficiency levels is first provided in relative frequencies distributions and followed by significance tests as indicated in Table 9 and Table 10, respectively.

Table 9. The relative frequencies in the performance of the Chinese ESL groups on the Chinese SCT and Chinese DT across three English proficiency levels

Participants	The Chinese SCT				The Chinese DT			
	<i>because-initial</i>		<i>because-medial</i>		<i>because-initial</i>		<i>because-medial</i>	
Level 1	60	68.97%	27	31.03%	27	87.1%	4	12.9%
Level 2	26	29.21%	63	70.79%	28	93.33%	2	6.7%
Level 3	59	64.84%	32	35.16%	30	88.24%	4	11.76%
Chinese Total	99	38.22%	160	61.78%	32	52.46%	29	47.54%

As indicated by the descriptive statistics in Table 9, the Chinese ESL group exhibits different use of the *because-initial* structure at different proficiency levels in both the Chinese SCT and Chinese DT. To determine if the differences among the three Chinese subgroups achieve statistically significant differences, inferential statistical tests using the Chi-square are further conducted as indicated in Table 10.

Table 10. The overall relationship between L2 English proficiency and the use of *because-initial* structure among the Chinese ESL group in the Chinese SCT and Chinese DT

Tasks	Null Deviance	Residual Deviance	Dispersion	<i>df</i>	χ^2
Chinese SCT	126.9455	92.1013	3.6999	2	9.42**
Chinese DT	28.0038	27.3490	1.4407	2	0.46

***p* < 0.01 *df* = degrees of freedom

As displayed in Table 10, inferential statistics reveals a significant L2 proficiency effect in the Chinese SCT (*p* < 0.01), but not in the Chinese DT (*p* < 0.80). In what follows, inferential statistical tests are further conducted to identify the possible differences among the three L2 proficiency levels.

4.2.1 The Chinese SCT

Further statistical results using the two-tailed *t*-test¹⁰ indicates a significant difference between Level 1 and Level 2 (*p* < 0.05), and between Level 2 and Level 3 (*p* < 0.05) in the Chinese SCT. However, no significant difference is found between Level 1 and Level 3 (*p* < 0.62). That is, the negative L2 effect on *because-initial* information sequencing in Chinese SCT (resulting in low frequency of use in this pattern) is most conspicuous in the Level 2 Chinese learners as shown in Table 11.

Table 11. The frequency rate of using *because-initial* structure among the three English proficiency levels of the Chinese ESL group in the Chinese SCT

Level	Level 1	Level 2	Level 3
Log odds	0.7985	-0.8850	0.6118
Level 1		-5.1220*	0.5849
Level 2			-4.6751*

**p* < 0.05

The frequency rate of using *because-initial* structure by the Chinese ESL group across the three proficiency levels in the Chinese SCT, as indicated in Table 9 earlier,

¹⁰ Given that hypothesis (2) is stated in a *non-directional* form due to the relative lack of strong evidence between backward transfer and L2 proficiency in previous studies, the two-tailed, rather than one-tailed, *t*-tests are used. In other words, a two-tailed *t*-test will require stronger statistical evidence than a one-tailed *t*-test to confirm the alternative hypothesis (Hatch and Lazaraton 1991).

is 68.97% at Level one, 29.41% at Level 2, and 64.84% at Level three. The frequency rate at Level 2 is only 29.21%. This is rather low, compared to the frequency rates at Level 1 and Level 3, which are 68.97% and 64.84%. The minimal difference between Level 1 and Level 3 (68.97% vs. 64.84%) clearly indicates why inferential statistics in Table 11 yields no significant difference between these two levels ($p < 0.62$). In contrast, the vast differences between Level 2 and Level 1 (29.21% vs. 68.97%) and between Level 2 and Level 3 (29.21% vs. 64.84%) indicate why inferential statistics reveals a significant difference between Level 2 and Level 1, and between Level 2 and Level 3 ($p < 0.05$). The numerical differences among the three proficiency levels at the Chinese SCT can be further illustrated in Figure 4.

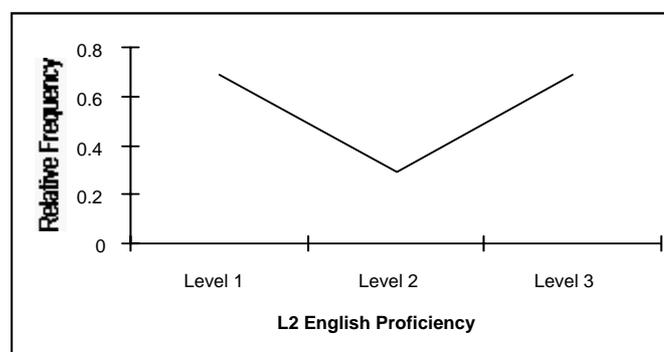


Figure 4. The frequency rate of using *because-initial* structure among the three English proficiency levels of the Chinese ESL group in the Chinese SCT

Figure 4 exhibits a pattern in which the frequency rate for the three proficiency levels is initially high (Level 1), then declines (Level 2), and rises again (Level 3). Thus, hypothesis (2) is partly supported at the sentence level, since there is a negative L2 effect on the use of *because-initial* structure among the Level 2 Chinese learners in Chinese SCT but not on the Level 1 and Level 3 Chinese learners. In other words, the Level 2 Chinese participants are likely to experience backward transfer from L2 English to L1 Chinese, a point that is returned to in the Discussion Section.

4.2.2 The Chinese DT

As shown in Table 10, there is no significant effect of L2 English proficiency on the use of *because-initial* structure by the Chinese ESL students in the Chinese DT ($p < 0.80$). The frequency rate of using *because-initial* structure by the Chinese

ESL group across the three proficiency levels in the Chinese DT, as indicated in Table 9 earlier, is 87.1% at Level 1, 99.33% at Level 2, and 88.24% at Level 3. The numerical differences can be further illustrated in Figure 5.

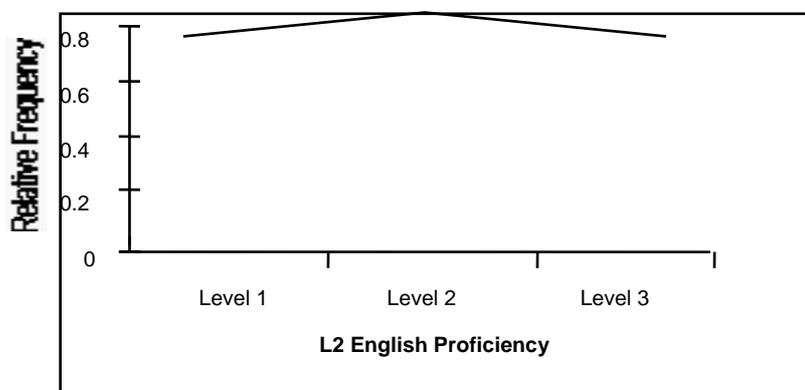


Figure 5. The frequency rate of using *because-initial* structure among the three English proficiency levels of the Chinese ESL group in the Chinese DT

Figure 5 exhibits a virtually horizontal linearity, indicating that the Chinese ESL learners at all proficiency levels show a strong preference for the L1 discourse pattern of *because-initial* structure in the Chinese DT. Thus, L2 proficiency does not appear to condition the use of this L1 structure in the Chinese DT. Hence, hypothesis (2) is not supported at the *discourse* level.

5. Discussion

5.1 The first research question

To address the first research question on forward transfer, hypothesis (1a) predicts that Chinese ESL learners, when writing in L2 English, will supply more of *because-initial* structure, as influenced by their L1, than will Spanish ESL learners who do not prefer this pattern in their L1. The results, as shown in Table 4, indicate a statistically significant difference between the two ESL groups in both the English SCT and the English DT. This finding lends further support to the previous L2 research claim that Chinese ESL learners tend to transfer their L1 discourse strategy of SC—MC information sequencing into the their L2 English at the both sentence and discourse levels (Young 1982, Scollon and Scollon 1991 Kirkpatrick 1993).

Regarding the second part of the first research question on the relationship

between forward transfer and L2 proficiency, hypothesis (1b) predicts that there is a negative relationship in these two variables at both the English sentence and discourse levels. However, statistical results, as respectively shown in Figure 2 and Figure 3, reveal that hypothesis (1b) is only supported at only the discourse level but not the sentence level. This is because the Level 2 Chinese ESL learners appear to produce high frequency occurrences of target-like MS—SC information sequencing (i.e. *because-medial* structure) in the English SCT (86.25%, see Table 5). In an attempt to unravel the mystery of the Level 2 Chinese learners' unusual performance on the English SCT, the present author further conducts within-task and between-task data comparisons for the English SCT and English DT.

5.1.1 The within-task data comparison: Overuse

The section first discusses the Chinese learners' performance on the English DT, because it is consistent with previous research findings. As shown in Table 5 and Figure 3, the Chinese learners' performance data in the English DT exhibit a downward linear curve: 69.57% at Level 1, 55% at Level 2, and 27.78% at Level 3. These are the percentages in which the Chinese learners use a marked L2 pattern (i.e. *because-initial* structure), although it is considered unmarked in their L1. These performance data fit in well with previous research claims that there is a negative relationship between L2 proficiency and forward transfer (e.g. Takahashi and Dufon 1989, Maeshiba, Yoshinaga, Kasper and Ross 1996). That is, the least proficient Level 1 Chinese learners are found to aptly transfer their L1 discourse pattern of *because-initial* information sequencing into their L2 (69.57%), whereas the most proficient Level 3 Chinese learners resort less to this L1-based discourse strategy in their L2 writing (27.78%) with the Level 2 intermediate Chinese learners in between (55%).

In contrast, the Chinese learners' performance data in the English SCT, as shown in Table 5 and Figure 2, exhibit a *U-shaped* behavior pattern¹¹ (Kellerman 1979, 1983, 1985, Gatbonton 1983, Lightbown 1985, Gershokoff-Stow and Thelen 2004). That is, the frequency rate of using L1-based discourse strategy in their L2 writing is initially high (69.05% at Level 1), then declines (13.57% at Level 2), and rises again (31.58% at Level 3). These results do not support the negative relationship between L2 proficiency and forward transfer. That is, the Level 2 (intermediate)

¹¹ The notion of *U-shaped* behavior in SLA is first proposed by Kellerman. That is, L2 learners may sometimes pass through an early stage of development where they exhibit correct use of a target-like L2 form if this form corresponds to an L1 form and then replace it with a developmental non-target-like L2 form before finally returning to the correct target-like L2 form again. Thus, error frequency in the three stages is initially low, then rises, and finally declines again; conversely, accuracy level is initially high, then declines, and finally rises again, yielding the *U-shape* in a graphic representation of the performance data.

Chinese learners (13.57%) are found to produce less of non-target-like L2 *because-initial* structure than both the Level 1 (beginning) Chinese learners (69.05%) and the Level 3 (advanced) Chinese learners (31.58%). In other words, the Level 2 Chinese learners produce significantly more of target-like L2 *because-medial* structures (86.25%) than both the Level 1 (30.95%) and the Level 3 (68.42%) Chinese learners. The Level 2 Chinese speakers even outperform the native English baseline group (80.23%) in producing this target-like L2 unmarked pattern in the English SCT (see Appendix 1.1). It is unlikely that the Level 2 intermediate Chinese ESL learners are actually ‘better’ than the Level 3 advanced Chinese ESL learners and the English native speakers in acquiring the target-like L2 English pattern of *because-medial* information sequencing. Thus, the *U-shaped* pattern may have resulted from a so-called ‘overuse’ behavior by the Level 2 Chinese learners in *overindulging* in their use of this target-like L2 pattern, thus leading to their *underrepresented* use of the L1 discourse pattern (Levinson 1971).

Overuse of because-medial structure as a result of transfer of training

How can the overuse behavior of the Level 2 Chinese learners be explained? The reason may have been due to *transfer of training* (Selinker 1972). In other words, in a context of learning L2 writing in the U.S. academic environment, the Level 2 Chinese learners might have been instructionally directed toward the unmarked L2 use of *because-medial* information sequencing, and thus have made a conscious effort to approximate this usage (Corder 1978). Because of this likely transfer of training effect, they appear to overuse the target-like unmarked L2 pattern in the English SCT. This explanation via a transfer of training effect seems plausible since six of the eight Level 2 Chinese students, whose TOEFL scores are lower than 575, come from a university which has required them to take additional ESL courses.

L2 availability and restructuring process

However, why did overuse behavior, as a possible result of the transfer of training effect, occur only to the Level Chinese 2 learners, but not to the Level 1 and the Level 3 learners? Two major theories in SLA may help to interpret this result. Firstly, it may be related to the Chinese learners’ L2 processing level, an issue of learnability (Pienemann 1984). Moreover, it has been pointed out that the L2 resources and access level available to learners might act as constraints on development (Freeman and Long 1991). Secondly, the research view of SLA as a

restructuring process offers a further explanation. According to Lightbown (1985), SLA is not simply linear and cumulative, but is characterized by a processing of restructuring according to a *U-shape*, first declining as more complex internal representations replace less complex ones, and increasing again as skills become proficient. Similarly, Corder (1978) views the process of SLA as a *restructuring continuum* in which learners first utilize their L1, gradually restructuring it as they discover how it differs from the L2. In other words, learners' IL is viewed as a series of stages consisting of the gradual replacement of L1 rules by L2 rules. Moreover, Anderson (1983) maintains that the early stages of SLA involve the creation of independent and autonomous linguistic systems, at least partly distinct from the L2, which he termed *nativization*; this is distinguished from *denativization*, referring to the later stages of SLA, in which the circumstances cause learners to restructure their linguistic system to conform more closely to that of the L2.

Thus, at the earlier stages of the IL continuum, it is only natural for the Level 1 Chinese learners to utilize their L1 for hypotheses about the L2, as evidenced by their high frequency of use in the L1 discourse pattern of *because-initial* information sequencing (69.05%) in the English SCT. This result suggests that forward transfer from L1 to L2 is primarily a processing and acquisition strategy in the autonomous, pre-restructuring stage in L2 learners' IL system. On the other hand, the Level 3 Chinese learners, who are more fluent in L2, may have been approaching the later stages of restructuring and therefore have a better command of the target-like unmarked L2 pattern. This could explain their relatively fewer use of *because-initial* information sequencing (31.58%) in the English SCT, as compared to that of the Level 1 Chinese learners (69.05%), although still considerably more than that of the English baseline group (19.77%). In contrast, the level 2 Chinese learners, at the intermediate course of IL development, may have begun to separate the L1 and L2 systems, as a result of their developing an independent set of L2 rules distinct from those of L1. But since they are still at the transitional stages of restructuring, the Level 2 Chinese learners may not yet have a proper sense of the natural (unmarked) use of this target-like L2 item but tend to overuse it.

The theories of L2 processing level and restructuring process can also account for why the transfer of training effect may not affect the Level 1 and Level 3 Chinese learners. Transfer of training does not appear to be an issue for the Level 1 Chinese learners, due to their heavy reliance on L1 acquisition strategy (i.e. *because-initial* information sequencing) in an autonomous, pre-restructuring stage in their IL (Anderson 1983). Moreover, even if the Level 1 Chinese learners were exposed to the linguistic pattern (i.e. *because-medial* information sequencing) under investigation in an ESL classroom, transfer of training would not take effect so

easily (Pienemann 1984, Freeman and Long 1991) before their processing level is elevated (say, to the intermediate level). Additionally, transfer of training does not affect the Level 3 Chinese learners, because they are advanced learners who might have developed crosslinguistic awareness of the markedness difference between information sequencing in Chinese and English, and would not regard *because-medial* structure as the sole information sequencing strategy in English. By contrast, the Level 2 Chinese learners are presumably at the unstable, transitional stages of restructuring in their IL and are therefore more susceptible to the transfer of training effect.

5.1.2 The between-task data comparison: Task effect

The suggestion that the Level 2 Chinese learners may not have internalized the target-like unmarked L2 pattern can be further attested by a comparison of their performance data from the two different tasks. As can be seen from Table 5, the frequency with which the Level 2 Chinese learners produce the non-target-like L2 pattern (i.e. *because-initial* structure) increases drastically when they turn from the English SCT (13.75%) to the English DT (55%). This difference in performance at the two different linguistic levels reflects a task effect (i.e. the learners behave linguistically different between different task types). In contrast, for the Level 1 and the Level 3 Chinese learners, the difference in their performance data for the two linguistic levels is only minimal and does not show a task effect. For the Level 1 Chinese learners, their consistently high frequency of use in the non-target-like L2 pattern between both the English SCT and DT (69.05% vs. 69.57%) reveals a strong forward transfer from L1 to L2. For the Level 3 Chinese learners, their consistently lower frequency of use in this non-target-like L2 pattern in both English tasks (31.58% vs. 27.78%) suggests a weaker forward transfer and reflects a more target-like L2 use, pointing more to the direction of the native-like use by the English baseline group in both English tasks (19.77% vs. 16.67%).

Distribution of attention due to the task types

What requires further explanation, however, is why the overuse of the L2 target-like pattern by the Level 2 Chinese learners is only manifest in the English SCT but not in the English DT. There is a possible explanation for it. That is, it may have to do with the attention given to different task types. As pointed out by L2 researchers (e.g. Ney and Fillerup 1980, Zamel 1980, Azabdaftari 1986, Suhor 1987, Sajjadi and Tahririan 1992, Ito 1997), sentence-combining is a grammar task

used to help students understand sentence structure. It requires that they pay attention to individual grammatical forms and not to communication of ideas. In contrast, the picture description task is a communicative task, one which has been found to produce more interesting ideas and be very helpful to students unfamiliar with the subject matter or the cultural context of a literary text (Sarkar 1978).

Thus, the Level 2 Chinese learners may have seen the English SCT as a grammar task which requires that they attend to grammatical forms. This may have facilitated their use of the learned, but not yet internalized, unmarked L2 pattern, thereby leading to their overuse behavior. On the other hand, English DT is a writing task which requires that they focus on communicating ideas, a task which does not allow them to focus all their attention on the target-like L2 form. Hence, concentrating on generating ideas, they revert to their L1 discourse strategy and carry it over into the English DT. This can explain why the overuse of target-like L2 *because-medial* information sequencing is not manifest in the English DT.

The task types, however, do not seem to have an effect on the Level 3 and Level 1 Chinese learners. This is presumably because the Level 3 Chinese learners, at their current advanced stage, have generally move beyond certain syntactic processing constraints (in this case, *because-medial* structure) and are capable of directly processing the semantic content, an automaticized process that distinguishes proficient readers from non-proficient ones no matter in their L1 or L2 (Tzeng and Hung 1981). Therefore, the Level 3 Chinese learners should not be constrained by this specific grammatical form no matter in the English SCT or English DT, since they may have internalized/automaticized that form. The task effect will not affect the Level 1 Chinese learners, either since they may have not been aware of the L1-L2 difference between *because-initial* and *because-medial* structures in terms of markedness (i.e. frequency of use).

The tendency of target-like L2 patterns to appear and disappear at various points of development is labeled by Selinker (1972) as *backsliding*. Selinker indicates that L2 learners may backslide and lose target-like L2 forms and structures, ones they have seemingly mastered previously in isolation, when their attention is focused on new and difficult intellectual subjects. This is likely to be the case of the Level 2 Chinese learners in the present study, since the English DT is more cognitively demanding than the English SCT¹². The suggestion that the contrasting performance data of the Level 2 Chinese learners may have been due to the task

¹² The task effect between the SCT and DT that conditions the Level 2 Chinese learners (the experimental group) in terms of conscious attention to form does not apply to the Spanish control group, since Spanish, like English, uses the unmarked MC—SC (*because-medial*) information sequencing. Therefore, the issue of language transfer (either forward or backward) between L1 Spanish and L2 English due to the task effect will simply not occur.

effect is supported by previous research. For instance, it has been shown that more communicative tasks, which require conscious attention to *content*, tend to yield lower accuracy in grammatical forms, whereas sentence-combining, which is more formal and demands more conscious attention to *form*, will generally result in greater accuracy in the use of grammatical forms (Hulstijn and Hulstijn 1984, Sajjadi and Tahririan 1992).

5.2. The second research question

To address the second research question on possible backward transfer, hypothesis (2) predicts that there is a relationship between L2 proficiency and the use of the L1 discourse pattern of *because-initial* information sequencing in the L1 writing of Chinese ESL learners. As shown in Table 9 and Figure 5, the Chinese learners at all proficiency levels are found to predominantly use the L1 discourse pattern in the Chinese DT, confirming the research claim that SC—MC information sequencing is a fundamental principle in Chinese discourse. However, the Level 2 Chinese learners behave rather differently in the Chinese SCT. As shown in Table 9 and Figure 4, L2 proficiency has a negative effect on the performance data in the Chinese SCT, due to the meager use of the L1 discourse pattern by the Level 2 Chinese learners at the sentence level. Explanations pertaining to the negative L2 effect are suggested below.

5.2.1 The possible source of the negative L2 effect: Backward transfer (L1 attrition and L1 change)

There is some research evidence to indicate that proficient L1 writers are shown to gradually decline in their L1 writing skills (Carson and Kuhn 1994) or change in their L1 processing strategy (Su 2001) in an L2 environment. From another perspective, L1 attrition or L1 change, together termed more generally as backward transfer, is considered to be a rule-governed process, one that is affected by the kinds of data or sources of knowledge available to the learner to be used as evidence in testing the fitness of his construction of L1 grammar. In a similar vein, it has been argued that L1 speakers need evidence not only to develop an L1 system but also to maintain it (Seliger 1991). In other words, backward transfer occurs not because of lack of use but because of lack of confirming evidence that L1 syntax is correct in an L2 community (Sharwood Smith and Van Buren 1991). Thus, for the Chinese ESL learners, it is possible for an L2 pattern to begin to influence on the linguistic domain of L1, since their linguistic context is that of a U.S academic

community where the L1 discourse pattern is either not preferred (lack of confirming evidence) or not much used (lack of exposure). However, it remains to be explained as to why backward transfer, as the result of a negative L2 English effect, has occurred only with the Chinese SCT but not the Chinese DT.

5. 2. 2 Distribution of attention due to different task types

The inconsistent results for the Chinese SCT and the Chinese DT may have been due to attention distribution between different task types, as has been discussed in section 5.1.2 with respect to the English SCT and English DT. To recapitulate, the Chinese learners might have equally seen the Chinese SCT as a grammar task, which facilitates their overuse of the unmarked L2 pattern (i.e. *because-medial* structure) leading to their underrepresented use of the L1 discourse pattern (*because-initial* structure), even in their L1 Chinese writing. On the other hand, the cognitively demanding nature of the Chinese DT prevents the Chinese learners from focusing solely on the L2 form, so they revert to their preferred L1 discourse pattern in the Chinese DT. This may explain why the backward transfer or reverse transfer of an L2 form into the L1 (Cook 2003), is not manifest in the Chinese DT. Hence, it appears that whether backward transfer will occur has something to do with the Level 2 Chinese learners' ability or inability to attend to the target-like L2 pattern, which may in turn be contingent upon the nature of the task types.

Also worthy of special mention is the significant issue of L1 attrition in terms of the distinction between competence and performance. The former refers to the tacit linguistic knowledge of the learner, whereas the latter the control of that knowledge, which has to do with the nature of the "online accessing and processing" (Seliger and Vago 1991). In general, L1 attrition literature appears to accept a competence dimension as well as a control dimension (Sharwood Smith and Van Buren 1991). However, it is clear that the backward transfer (a more neural and general term than language attrition), which occurs to the Level 2 Chinese learners in the Chinese SCT rather than the Chinese DT, has more to do with the online access mechanisms (performance and control) than with the available tacit knowledge itself (competence).

The restructuring process of the Level 2 Chinese ESL learners

In their L1 Chinese task, the Level 2 Chinese learners produce their L1 native discourse pattern significantly less than the Level 1 and the Level 3 Chinese learners. Similar to their unusual linguistic behavior in the English SCT (i.e. overuse of the

target-like L2 MC—SC pattern), the Level 2 Chinese learners' underuse of their native SC—MC pattern in the Chinese SCT needs to be explained. As have been indicated previously regarding the Chinese learners' performance on the English tasks, the research view of SLA as a restructuring process can also offer an explanation. Sharwood Smith (1983), for instance, argues that restructuring is a process that could occur in the learners' L1 or L2 system in order to minimize the overall complexity of the learning or processing required in L2 acquisition. According to him, L1 attrition is a restructuring process in the direction of simplification in the L1 and/or L2 system. L2 learners will tend to compare structures across languages and transfer the less marked L2 structure into their L1, based both on markedness principles and on the specific aspect of the L1 or L2 system being focused on. Moreover, research suggests that backward transfer (e.g. L1 attrition) is not a phenomenon separate from forward transfer (i.e. NL influence). Rather, it is evidence of the inter-transfer of related L1 and L2 writing proficiencies, resulting from the generalized underlying discourse competence available to L1 and L2 (Cummins 1981, 1996, Carson and Kuehn 1994). Hence, the L1 system of the Chinese ESL learners may have been undergoing restructuring, and this may account for the backward transfer experienced by the Level 2 Chinese ESL learners. However, it has been pointed out that backward transfer or L1 attrition is not a simple phenomenon occurring in every individual, but is contingent upon the L2 proficiency level in relation to a "critical threshold" (Neisser 1984, De Bot and Clyne 1989, De Bot and Weltens 1991). It is likely that the Level 2 Chinese learners, given their intermediate level of L2 proficiency, have not yet reached this threshold and are thus susceptible to backward transfer, whereas the Level 3 Chinese students have arguably reached the threshold and so are relatively immune to such a process. Additionally, although the Level 1 Chinese learners have not reached the critical threshold as the Level 2 Chinese learners, they are relatively immune to backward transfer. This is because, given their current limited L2 processing and access level, they do not know L2 resources well enough to transfer them back to their L1. As mentioned before, backward transfer requires crosslinguistic awareness on the part of the learners, which is yet to be developed in the Level 1 Chinese learners who are still in an autonomous, pre-structuring stage, largely independent of the L2 system (Anderson 1983).

The end of this section summarizes the linguistic behavior of the Chinese learners according to their L2 proficiency. The Level 1 Chinese learners are presumably in an autonomous (i.e. pre-restructuring) stage. Therefore, they may not have been aware that *because-medial* structure is the target-like unmarked L2 pattern and are apt to use their L1 discourse pattern (i.e. *because-initial* structure)

wherever possible, until they begin to discover how it differs from the use of the L2 target-like pattern (Corder 1978). Thus their use of the L1 discourse pattern is consistent in both L2 English and L1 Chinese tasks, and in the Chinese tasks, there is no apparent trace of the backward transfer phenomenon.

On the other hand, the Level 2 Chinese learners, given their intermediate L2 level, might have learned that *because-medial* structure is the target-like unmarked L2 use. Thus, in their attempt to approximate the target-like L2 English *because-medial* information sequencing in the L2 system (Ellis 1985), the Level 2 Chinese learners may have experienced a restructuring in their L1 system in order to reduce the processing complexity of their L2 acquisition (Sharwood Smith 1983, Lightbown 1985). In other words, to approximate the newly-learned L2 use, the Level 2 Chinese learners may have experienced a restructuring toward simplification in the L1 such that the L1 discourse pattern is replaced by the target-like L2 pattern in the Chinese SCT. Hence, a restructuring of the Level 2 Chinese students' L1 system might have been the "latent process" underlying their L1 backward transfer experience (Jaespart, Kroon and Van Hort 1986).

Finally, as the English proficiency of the Level 3 Chinese learners increases, they may have "reverted" to improving their L1 skills at the end of the restructuring process (Lightbown 1985). Consequently, on the L1 tasks they are able to display a high frequency of use in the L1 discourse pattern in the Chinese tasks. Hence, English to Chinese backward transfer on the Chinese SCT is only obvious in the Level 2 Chinese learners, because they presumably are still at the interim stage of restructuring. In contrast, backward transfer does not occur to the Level 1 or Level 3 Chinese learners, because they may either have *not* begun restructuring (Level 1) or *already* completed the restructuring process (Level 3).

5.3 L1 and L2 data comparison in the DT and SCT

For the first and second research questions on forward transfer and backward transfer with respect to L2 proficiency, the key factors in explaining the Chinese learners' performance on both English and Chinese tasks seem to be the ideas of restructuring and task effect. Therefore, a close examination of the Chinese learners' L1 and L2 performance data at these two different task types may shed some light on the learners' SLA process. As indicated above, there is a negative L2 effect on the Level 2 Chinese learners' use of *because-initial* information sequencing in the Chinese SCT. It is further suggested that what underlies this negative L2 effect may have been the backward transfer (or L1 attrition) phenomenon. This phenomenon may have been related to the Level 2 Chinese learners' restructuring

process as well as to the task effect. In what follows, the Chinese learners' L1 performance data is examined to further support the interpretations suggested by the present author based on SLA theories reviewed in the preceding sections. The results of the DTs in the present study are examined first, since they are consistent with previous research findings regarding L1 transfer and L2 proficiency, whereas results of the SCTs appear to be different drastically from previous research findings.

5.3.1 L1 and L2 data comparison in the discourse tasks

Table 12 displays the comparative performance data for the Chinese learners in their use of L1 native pattern of *because-initial* structure in the Chinese DT and English DT.

Table 12. The Chinese ESL group's use of *because-initial* structure in the Chinese DT and the English DT across the three proficiency levels

Chinese Speakers	The Chinese DT			The English DT		
	Relative Frequency	<i>Because-initial</i>	<i>because-medial</i>	Relative Frequency	<i>because-initial</i>	<i>because-medial</i>
Level 1	87.1%	27	4	69.57%	16	7
Level 2	93.33%	28	2	55.00%	11	9
Level 3	88.24%	30	4	27.78%	5	13

A comparison of the Chinese learners' L1 Chinese and L2 English performance data for *because-initial* structure on the DT, as displayed in Table 12, indicates that their L1 and L2 linguistic performances are consistent with previous research findings. First, in the *Chinese* DT, the Chinese learners at all proficiency levels show a strong preference for using *because-initial* structure: 87.1% at Level 1, 99.33% at Level 2, and 82.24% at Level 3. This finding lends strong support to previous research claims that *because-initial* structure is a fundamental principle for information sequencing in Chinese discourse (Kirkpatrick 1993). Moreover, within the *English* DT, the frequency with which the Chinese learners use the non-target-like L2 marked pattern of *because-initial* structure exhibits a downward linear curve: 69.57% at the Level 1, 55% at Level 2, and 27.78% at Level 3. This supports general research claims that there is a negative relationship between L1 transfer and L2 proficiency at the discourse level (e.g. Takahashi and Dufon 1989, Maeshiba, Yoshinaga, Kasper and Ross 1996).

5.3.2 L1 and L2 data comparison in the sentence tasks

Table 13 displays the comparative performance data for the Chinese learners in their use of the L1 pattern of *because-initial* structure in the Chinese SCT and English SCT.

Table 13. The Chinese ESL group's use of *because-initial* structure in the Chinese SCT and the English SCT across three proficiency levels

Chinese Speakers	Chinese SCT			English SCT		
	Relative Frequency	<i>because-initial</i>	<i>because-medial</i>	Relative Frequency	<i>because-initial</i>	<i>because-medial</i>
Level 1	68.97%	60	27	69.05%	58	26
Level 2	29.21%	26	63	13.75%	11	69
Level 3	64.84%	59	32	31.58%	30	65

A comparison of Chinese learners' L1 Chinese and L2 English performance data for *because-initial* structure at the sentence level reveals a similarity in the frequency with which they produce this Chinese L1-based discourse pattern. That is, both the L1 and L2 performance data exhibit a *U-shaped* behavior pattern, with the Level 2 Chinese learners producing the least of this L1 discourse patterns in both the Chinese SCT (29.21%) and English SCT (13.75%). This contradicts previous research claims for a negative relationship between (forward) transfer and L2 proficiency. On the other hand, however, the linguistic performance of both the Level 1 and Level 3 Chinese learners appear to confirm previous research claims. That is, the Level 1 Chinese learners consistently exhibit a high frequency of use in the L1-based pattern in both the Chinese SCT (68.97%) and the English SCT (69.05%), confirming that the beginning learners adopt a primary L1 discourse strategy for both SCT tests. Additionally, the Level 3 Chinese learners produce a high frequency of use in the L1 discourse pattern in the Chinese SCT (64.84%), but they produce much less of this L1-based pattern in the English SCT (31.58%), confirming that the advanced learners are less vulnerable to L1 transfer in their L2 production. In contrast, the Level 2 Chinese learners not only show less preference for their L1 native discourse pattern in the Chinese SCT, but also show the least transfer effect on the English SCT, suggesting that the intermediate students are still in the unstable, interim stage of SLA.

Some explanations have been suggested for the unusual linguistic performance of the Level 2 Chinese learners in both Chinese and English SCTs. Their low frequency of use in *because-initial* structure in the Chinese SCT is likely to be

caused by a negative L2 effect, itself being a function of backward transfer from L2 to L1 that comes with these learners' restructuring in their L1 system. Their high frequency of use in the target-like L2 unmarked pattern of *because-medial* structure in the English SCT may well have been a manifestation of overuse due to the process of restructuring in their L2 system.

Thus, a close examination of the L1 Chinese and L2 English performance of the Chinese learners at sentence level suggests a high degree of similarity between the two. Transfer of training and task effect are the two most likely determinants of *overuse* of the target-like L2 pattern of *because-medial* structure (found in the *English* SCT) and *underuse* of the native-like L1 pattern of *because-initial* structure (backward transfer found in the *Chinese* SCT). These two conditions may account for the Level 2 Chinese learners' disparate linguistic behavior on the sentence and discourse tasks in L1 and L2 as displayed in Figure 6¹³.

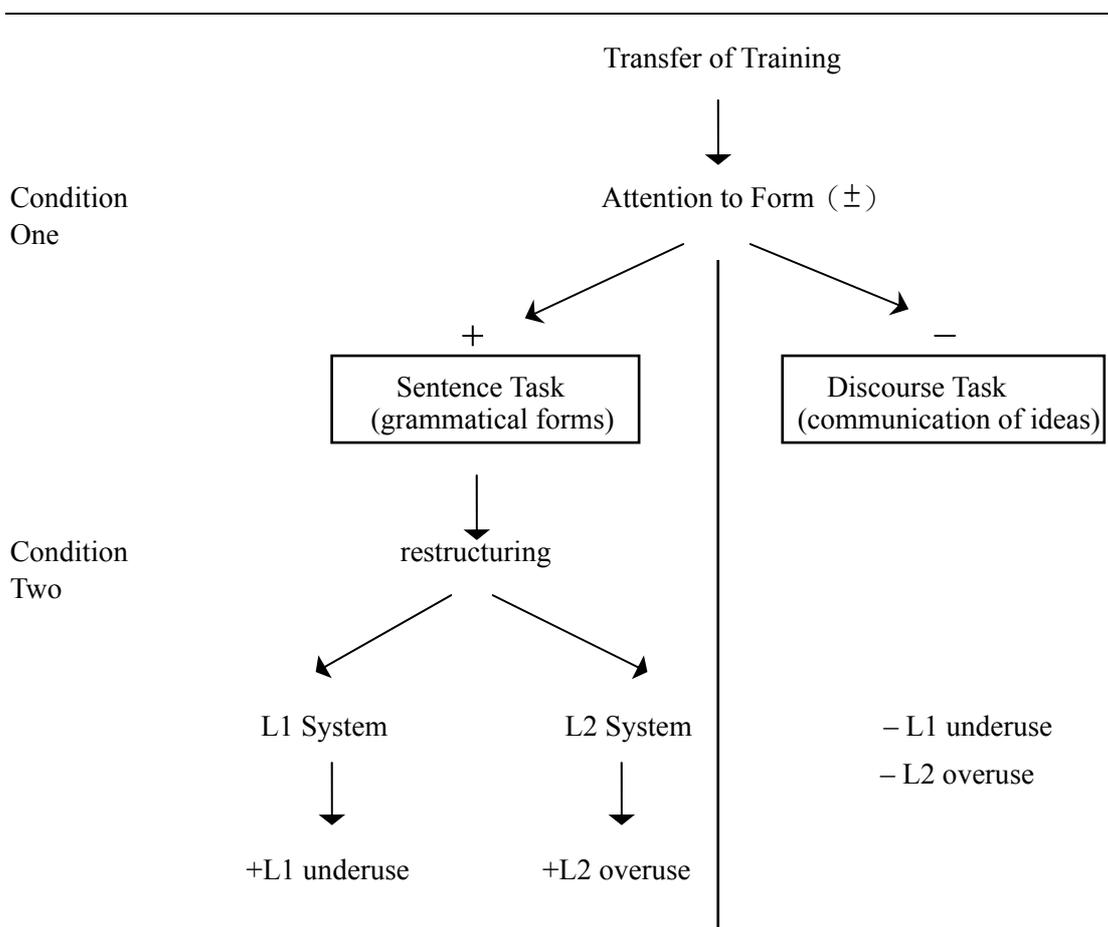


Figure 6. The relationship of L1 underuse and L2 overuse in relation to the task effect and transfer of training in the performance of the Level 2 Chinese learners

¹³ The author acknowledges his gratitude to one of the two reviewers, whose suggestion has contributed to this modified model in Figure 6.

6. Implications

Several implications have emerged from the present linguistic analysis of the written language of the Chinese ESL learners regarding *because-initial* information sequencing at the sentence and discourse levels and in both Chinese and English.

6.1 Theoretical implications

Research in academic writing has suggested that the behaviorist notion of L1 interference, as implied in the text-based structuralist perspective of Contrastive Rhetoric, does not help in explaining backward transfer from L2 to L1 in the L2 developmental process. Instead, the development of academic writing proficiency should be seen a function of the students' active educational experiences in their L1 and L2. In developing English writing proficiency in an L2 environment, what remains for ESL writers is the underlying generalized discourse competence available for transfer across L1 and L2, and this accounts for the apparent disappearance of L1 surface features and the emergence of L2 surface feature. Thus, L2 to L1 backward transfer may not be a phenomenon separate from L1 to L2 forward transfer, but evidence of the inter-transfer of interrelated L1-L2 writing proficiencies within the generalized field of underlying discourse competence. In other words, forward transfer and backward transfer are but related manifestations of the overarching phenomenon of crosslinguistic influence.

In sum, the theoretical implications of this study point to the need for further studies based on a functional-cognitivist perspective on language transfer as well as to the inadequacy of those studies based solely on a structural-behaviorist perspective. The latter may simply fail to describe the Chinese ESL learners' active linguistic behavior as observed in the present study. This includes forward transfer of the preferred or unmarked L1 Chinese discourse pattern of *because-initial* structure in the English sentence task; in this transfer the use of the L1 Chinese pattern in L2 English production will not be seen as an error since this unmarked L1 pattern mirrors the marked use of the same pattern in L1 English. Thus within a structural-behaviorist framework, the common restructuring process underlying both the possible backward transfer of Chinese L1 discourse patterns and the overuse of target-like L2 patterns would simply have gone unnoticed, if efforts are only focused on observed errors.

6.2 Methodological implications

More recent research suggests that there is an interaction between different levels of analysis such that they need to be examined simultaneously. It should be noted that if the present study had investigated the linguistic performance of the Chinese ESL learners only at the *sentence* level (SCT), these isolated findings would have led to a different conclusion. Thus, for example, without the evidence of the Chinese DT to reinforce the argument that *because-initial* information sequencing is the unmarked Chinese discourse pattern, the sole finding in the Chinese SCT regarding the underuse of the L1 Chinese pattern by the Level 2 Chinese learners would have suggested that *because-initial* structure is *not* the preferred Chinese pattern, not only contradicting previous research findings but also falsely attesting to the universal, rather than typological, account of information sequencing.

Moreover, if this study had examined the Chinese learners' performance of the L1 pattern only at the *discourse* level (the Chinese DT), the results would simply confirm previous claims that this pattern is indeed the unmarked in L1 form, but the English to Chinese backward transfer phenomenon occurring in the Level 2 Chinese learners in the Chinese SCT would have gone unnoticed. In sum, the methodological implications of this study point to the inadequacy of traditional research which focuses its analysis on only one linguistic level.

6.3 Pedagogical implications

6.3.1 ESL/EFL writing

According to the notion of principal branching direction (PBD), English is a right-branching language (at the phrase and clause levels), whereas Chinese is a left-branching language (at all language levels). This difference in branching directions raises interesting questions about word order in Chinese and English. In other words, the principal differences between unmarked clause sequencing in Chinese (SC—MC) and in English (MC—SC) have important implications for ESL teachers of writing to Chinese learners (or vice versa for CSL teachers of writing to English learners). The contrasting linguistic patterns in Chinese and English need to be explicitly taught to L2 learners. For example, Chinese learners of English, especially those at the beginning level, will need to be taught the important distinction between information sequencing in English and Chinese: i.e. *because-initial* information sequencing is the unmarked form in Chinese, but it is a marked one in English. It is unlikely that language learners will master these

subtle language-specific uses unless efforts are directed at raising their metalinguistic and cross-linguistic awareness (Ellis 1994).

6.3.2 Communicative activities

Tasks such as sentence-combining, which requires that learners focus their attention on grammatical forms, may be not sufficient in helping learners acquire the target grammatical structures intended. For example, in this study, the Level 1 Chinese learners predominantly use *because-initial* structure in the English SCT, suggesting that they have little cross-linguistic awareness of the differences between Chinese and English information with respect to the idea of markedness. Moreover, the Level 2 Chinese learners extensively use the target-like L2 pattern of *because-medial* structure in the English SCT but drastically revert to their L1 discourse pattern in the English DT. This suggests that they may have learned to focus on the unmarked L2 pattern but have not yet internalized it. Hence, a more effective method in classroom teaching would be to devise activities that require learners to communicate while also focusing their attention on the formal properties of L2 patterns. This focus on formal communicative activities has been shown to be conducive to L2 learning (Montgomery and Eisenstein 1985, Schmidt and Frota 1986, Lightbown and Spada 1990, Schmidt 1990, Long 1991, Doughty and William 1998).

7. Limitations of the study and suggestions for further research

The findings and implications derived from this investigation suggest a few directions for possible future research.

First, there are a total of 56 graduate students in this study. Among the 56 participants, there are 24 participants for each ESL group, which is further divided into three proficiency levels with eight participants on each level. Although the number of eight participants on each proficiency level meets the minimal requirement for effective statistical inference (Demaris 1991), further data with more participants will be preferred to obtain more robust analysis results.

Moreover, the argument for the transfer of training effect on the Level 2 Chinese learners can be strengthened if a qualitative account is included which incorporates an interview with those Level 2 Chinese learners receiving additional ESL courses, apart from the quantitative data provided in this study.

Finally, this research examines information sequencing only in its normal unmarked language use. However, as pointed out by researchers (e.g. Halliday

1985, Givón 1987), clause sequences vary largely, depending on factors such as topic, pragmatic functions, context, and situations. Thus, a crosslinguistic comparison between Chinese and English of the pragmatic function of information sequencing would supply much needed data on language use.

Appendix

Appendix 1.1. The overall performance of the three language groups on the L1 tasks

Participants	SCT				DT			
Information Sequencing	<i>Because-initial</i>		<i>Because-medial</i>		<i>Because-initial</i>		<i>Because-medial</i>	
American Total	17	19.77%	69	80.23%	3	16.67%	15	83.3%
Level 1	4	1.87%	71	98.13%	2	8%	23	92%
Level 2	1	1.2%	85	98.8%	1	4.3%	22	95.7%
Level 3	0	0%	83	100%	1	4.5%	21	95.5%
Spanish Total	5	2%	239	98%	4	5.7%	66	94.3%
Level 1	60	68.97%	27	31.03%	27	87.1%	4	12.9%
Level 2	26	29.21%	63	70.79%	28	93.3%	2	6.7%
Level 3	59	64.84%	32	35.16%	30	88.2%	4	11.76%
Chinese Total	145	54.31%	122	45.69%	83	89.24%	10	10.76%

Appendix 1.2. The overall performance of the Chinese and Spanish ESL group on L2 English tasks

Participants	The English SCT				The English DT			
Information Sequencing	<i>Because-initial</i>		<i>Because-medial</i>		<i>Because-initial</i>		<i>Because-medial</i>	
Level 1	11	15.27%	61	84.73%	1	3.7%	26	96.3%
Level 2	2	1.2%	76	98.8%	1	4.3%	20	95.7%
Level 3	6	6.59%	85	93.41%	1	5.26%	18	94.74%
Spanish Total	19	7.88%	222	92.12%	3	4.48%	64	95.52%
Level 1	58	60.05%	26	39.95%	16	69.57%	7	30.43%
Level 2	11	13.75%	69	86.25%	11	55%	19	45%
Level 3	30	31.58%	65	68.42%	5	27.78%	13	72.13%
Chinese Total	99	38.22%	160	61.78%	32	52.46%	29	47.54%

Appendix 2.1. L2 English SCT

Sentences (a) and (b) in each of the following test items can be combined to express a relationship by using appropriate word or phrase provided on the right. The words and phrases on the right may be used more than once. Make clear the relationship by combining the two sentences in each test item **IN ANY ORDER** you prefer. Please write out the ENTIRE combined sentence. You will have 20 minutes to complete the 20 test items.

- 1) a. He arrived late at the station.
b. He missed the train.

ONLY USE:

- 2) a. He has to work hard in his old age.
b. He was idle in his youth.

- 3) a. They want a fancy house.
b. We like to live in an apartment.

- 4) a. It was very cold outside.
b. We stayed in the house.

- 5) a. Prices are going up.
b. We want to buy something

- 6) a. He is saving money now.
b. He is going to buy a car.

- 7) a. He is always late for work.
b. He gets up early every morning.

- 8) a. He didn't take good care of himself.
b. He got a bad cold and lay in bed.

- 9) a. I am forced by bad weather to stay in the house.
b. I usually go out for a walk every day.

- 10) a. The teacher was angry.
b. He hadn't done his homework.

- 11) a. He has been praised too much.
b. He has become too proud.

- 12) a. They tried their best to win the game.
b. They knew the defeat was inevitable.

- 13) a. I am trying my best to earn a good GPA.
b. I know it's hard to go to graduate school.

- 14) a. Men are guided by reason.
b. Animals are guided by instinct.

- 15) a. He hadn't prepared for the test.
b. He performed very poorly.

- 16) a. The time is quite sufficient.
b. I can definitely do the job well.

- 17) a. Nobody showed up at his birthday party.
b. He forgot to mail the invitations.

- 18) a. He had never thought about his particular speech style.
b. He went to college at the age of forty.

- 19) a. There was no reason to stay any longer.
b. He finally headed home.

- 20) a. He continued to gain weight.
b. He didn't go on a strict diet.

before

while

until

because

if

as long as

unless

though

although

whereas

Appendix 2.2. L1 Spanish SCT

En los pares de oraciones siguientes, combine las oraciones (a) y (b) usando una de las palabras o expresiones de la lista de la derecha. (Haciendo los cambios pertinentes.) Puede usar cada palabra o expresión más de una vez. Las oraciones se pueden combinar en EL ORDEN QUE USTED PREFIERA. Por favor, escriba TODA la frase resultante. Dispone de 20 minutos para completar este ejercicio.

- 1) a. He estado escribiendo cartas toda la mañana.
b. No he tenido tiempo para hacer otras cosas.

- 2) a. Nos fuimos de la fiesta bastante antes de medianoche.
b. La fiesta era aburridísima.

- 3) a. Lucas estaba trabajando duro en el jardín.
b. Miguel estaba durmiendo en la hamaca.

- 4) a. Es un profesor excelente.
b. Es popular entre los estudiantes.

- 5) a. El padre de Leticia le comprara una bicicleta.
b. Leticia había estado caminando al colegio.

- 6) a. Creo que voy a tomarme un par de aspirinas.
b. Hace dos horas que tengo un dolor de cabeza horroroso.

- 7) a. Ya no va a la escuela.
b. Tiene mucho tiempo libre.

- 8) a. Estuvo tosiendo toda la noche.
b. No he pegado ojo en toda la noche.

- 9) a. Ha terminado otro capítulo del famoso libro.
b. No se irá a la cama satisfecha.

- 10) a. El médico le dijo que tomara unas vacaciones.
b. Había estado trabajando mucho últimamente.

- 11) a. Había dicho una mentira muy gorda.
b. Fue castigado severamente.

- 12) a. Nuestro ejército ocupó la ciudad tal como estaba planeado.
b. El enemigo se resistió tenazmente.

- 13) a. Tenemos pocas visitas.
b. Vivimos en las afueras.

- 14) a. El señor De Los Reyes estaba viendo la tele en el salón.
b. La señora De Los Reyes estaba preparando la cena en la cocina.

- 15) a. Todos mis deberes estaban hechos.
b. No tengo nada más que hacer.

- 16) a. Estoy viviendo en la casa.
b. No permitiré que ningún animal entre en la casa.

- 17) a. No puedo prestarte el dinero.
b. No te conozco lo suficiente.

- 18) a. No abandonen el edificio.
b. La policía llega.

- 19) a. Había estado escribiendo el trabajo de clase durante más de una semana.
b. Decidió entregar el trabajo sin revisarlo más.

- 20) a. Hubo muchos accidentes en la carretera.
b. La carretera estaba mojada y resbaladiza.

antes de que

mientras

hasta (que)

en cuanto

porque

si

en tanto que

a menos que

aunque

Appendix 2.3. L1 Chinese SCT

在下列 20 個測驗題裡，每題中的(a)和(b)之間存在著一種關係。請在右手邊選出適當的一個或兩個連接詞，將(a)和(b)組合在一起，明確表達它們之間的關係。兩者組合順序不拘；右邊的詞可重複使用。請把組合的句子完整寫出。

- 1) a.我一個早上都在寫信。
b.我沒時間做其他的事。

- 2) a.我們離開了舞會。
b.舞會十分地無聊。

- 3) a.張三在花園裡工作。
b.李四在床上睡大覺。

- 4) a.他是很好的老師。
b.他很受學生歡迎。

- 5) a.父親買腳踏車給小明。
b.小明都是走路上課的。

- 6) a.我要吃一兩顆頭痛藥片。
b.我頭痛快要兩個小時了。

- 7) a.她不再去學校念書。
b.她有許多空閒時間。

- 8) a.他整晚在咳嗽。
b.我都不能睡覺。

- 9) a.她看完這本書。
b.她不會想睡覺。

- 10) a.醫生告訴他應該休假。
b.他最近工作十分辛苦。

- 11) a.他說了個謊話。
b.他被罵了一頓。

- 12) a.我們計劃攻下這城市。
b.敵人十分頑強地抵抗。

- 13) a.我不常有訪客。
b.我住在郊區裡。

- 14) a.王先生在客廳看電視。
b.王太太在廚房做晚飯。

- 15) a.我功課都做完了。
b.我沒有事情可做。

- 16) a.我住在這個房子一天。
b.我不准野貓野狗進來。

- 17) a.我不能把錢借給你。
b.我對你的認識不夠。

- 18) a.不要離開屋子。
b.警察人員到達。

- 19) a.他作業已寫了一星期。
b.他決定把作業交上去。

- 20) a.這條路常發生意外。
b.這條路很溼又很滑。



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正向遷移與逆向遷移在第二語言和第一語言 寫作的互動：以台灣留美學生為例

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本文旨在探討第二語言環境的語言遷移現象。根據研究顯示，從第一語言到第二語言的正向遷移，出現於第二語言習得的初期，然此現象隨著第二語言程度的提昇而減少。此外，亦有証據顯示，從第二語言到第一語言的逆向遷移，可能發生於第一語言使用有限的環境，或是在第一語言語法之正確性無法得到確認的情況。本文探討臺灣籍與西班牙籍的美國大學研究生，按三種不同等級的英文程度，測試其第一語言與第二語言寫作，所有參與者都進行句法與篇章測試。結果顯示，台灣留學生的英文篇章出現正向遷移現象，而他們的中文句法出現逆向遷移現象。另外，中級台灣留學生的英文句法，其正向遷移與第二語言程度之關係呈 U 型曲線。同樣地，中級台灣留學生的中文句法，逆向遷移與第二語言程度之關係亦呈 U 型曲線。本研究指出語言遷移的複雜現象，以及其與第二語言程度和不同測試任務之間的互動。

關鍵詞：語言遷移、正向遷移、逆向遷移、U 型曲線、「主要分枝方向」、「時間順序原則」、跨語言學習者比較、對比研究、後設覺知與跨語言覺知