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Research Article

An Empirical Study of the Teachability and Learnability of L2 "Thinking for Speaking" Patterns

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Abstract

This study examines whether explicit pedagogical instructions of multimodal strategies based on typological contrastive analysis have any facilitative effect on the restructuring of "thinking for speaking" patterns, focusing on motion event construal which has been demonstrated to be notoriously difficult in second language acquisition (Hendriks and Hickmann 2011, Slobin 1996). Eighty adult Chinese intermediate-level EFL learners were recruited for a classroom-based quasi-experimental study with a pretest-posttest design. Teaching TFS instructions with awareness enhancement strategies as an independent variable divided the participants into two groups, the experimental group that received instructions and control group that followed a traditional teaching approach over a period of 4 weeks. Writing data were elicited by means of the *Frog Story* and was coded on specific measures of accuracy and complexity of the properties of lexicalization patterns: the description of Motion, Path and Ground. The results showed positive instructional effect on learners' writing performance of motion event expression and confirmed the possibility of restructuring L1 thinking-for-speaking patterns in L2 through pedagogical instructions. The findings provide practical implications for teachers, typological contrastive awareness and explicit pedagogical instructions prove to be significant for learners' development of L2 thinking for speaking patterns.

Keywords

Motion Events, L1/L2 Thinking-For-Speaking (Tfs) Patterns, Chinese Efl Learners, Typological Contrastive Analysis, Explicit Pedagogical Instructions

1. Introduction

According to Slobin's Thinking for Speaking (TFS) hypothesis [22-24], in acquiring a native language, one learns to attend to dimensions of experience in a language-specific way; that is, the online thinking patterns of the native speakers are largely shaped by the lexicalization patterns of their native language. In terms of SLA, as Slobin [22] suggests, the TFS pattens developed in L1 acquisition plays a constraining role of the conceptual restructuring in L2 acquisition, which is especially true for learning to talk about motion event. A bulk of empirical studies have been engaged in testing whether and to what extent the deeply entrenched L1 conceptualization patterns can be relearned or restructured in L2 acquisition [2, 5, 13, 14, 30] Those studies involve different types of learners, language combinations and tasks. The findings support the fact that linguistic diversity give rise to cross-linguistic differences in cognition, learning a foreign language implies learning a new way of thinking for speaking. The literature is also rich with work on exploring

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the extent of influence of constraining factors that affect the cognitive development of L2 learners, such as L1 typological influence [8, 30], learner's proficiency level [6] in the target language, and age of L2 acquisition [19]. Various pedagogical aspects and implications of their findings have been discussed in the sense that they teach us what factors are likely to cause problems and how these could possibly be taught. Many scholars have proposed explicit instructions [1, 25] by arguing the limitations of implicit learning in certain context. However, despite of all the suggestions and proposals based on the previous findings, pedagogical aspects of this area have not been fully discussed due to insufficient empirical support. The effectiveness of the proposed pedagogical tools remains to be tested. Instructions on teaching practice in L2 classroom have to be specified, concerning teaching goal, teaching materials, and teaching techniques. This study attempts to contribute to the development of both theoretical and empirical aspects of this line of research by examining the pedagogical value of L2 learners' knowledge about linguistic specificity in thought and the effectiveness of pedagogical interventions on different types of learners, language combinations and tasks.

2. Literature Review

2.1. Motion Events in L2 Acquisition

Over the past decades, research into the expression of motion events in L2 acquisition has gained increasing currency within the field of applied linguistics. Early researches mainly investigate how L2 learners come to express motion event in target language which is typologically different from their native language. Different conclusions have been reached concerning the influence of L1 thinking for speaking pattern on L2 acquisition. For example, the series of articles by Cadierno (2004), Cadierno and Ruiz (2006) explored how Danish (Satellite Frame Language) learners of Spanish (Verb Frame Language) at intermediate and advanced levels expressed motion events in Spanish by comparing the learners' L2 performance with that of their L1. It is found that the effects of mother tongue characteristics and thinking for speaking patterns on L2 are limited; advanced level learners can "retrain" their thinking for speaking patterns to express motion events in L2 rhetorical style. Studies by Navarro and Nicoladis [19] also found that high-level native English learners almost completely mastered L2 Spanish narrative style of motion event, focusing on the most salient difference of the two languages in motion event expression: path. Similarly, Brown and Gullberg [2] also focused on the typological preference for Path expressions in their study on the L1 production by Japanese and English monolinguals and intermediate bilinguals of English as a foreign language. Result showed that the L1 production of the bilinguals combined both L1 and L2 lexicalization strategies of Path expression. Therefore, they proposed a bidirectional transferring relationship between L1 and L2 and argued that even the highly entrenched typological pattern as Path could be altered with the acquisition of a second language. On the contrary, some other empirical evidences support strong L1 influence. In the study of Larranaga et al. [16], no significant differences were found between L2 Spanish learners of different levels when investigating their encoding of manner of path verbs, and the boundary crossing in particular. They argued that even high-level Spanish learners have great difficulties in expressing motion events and L1 transfer still plays an important role in the advanced stage of L2 learning. Hendriks, Hickmann, and Demagny [13] and Hendriks and Hickmann [14] analyzed how English students acquired French from the perspective of discourse information organization. The study found that English students are "strongly influenced by their mother tongue system" when expressing caused/voluntary motion events in French and therefore "is resistant to change and need cognitive restructuring" [13].

2.2. Constraining Factors on the Development of L2 TFS

Talmy [26, 28] identifies two different types of language in the world with respect to how motion events are framed, verb-framed languages (V-languages, such as Spanish, Japanese, and other romance languages) and satellite-framed languages (S-languages, such as English, Chinese). However, this strict binary division cannot satisfactorily sort all languages. Slobin (2004, 2006) posited a third category called "Equipollently-framed languages" to accommodate the serial-verb languages like Mandarin Chinese and Thai. The typological classification of motion events has inspired L1 and L2 researchers to study the possible influences of typological difference on L1 and L2 acquisition and has been enumerated in many world languages. Studies show that the L1-L2 differences and similarities in typology are the main sources of challenge for L2 learners. Empirical results of Cadierno (2010) indicate that learners whose L1 is typologically different from L2 are likely to have more difficulty learning L2 motion event expressions than those whose L1 is typologically similar. In Zeng [31], oral narrative data were elicited from high level L2 learners and native speakers by means of the frog story. She investigated the acquisition of voluntary and caused motion event expressions from the perspectives of motion verb use, ground elaboration, event conflation and setting descriptions. The findings demonstrated that Chinese adult learners have, to some degree, acquired the characteristics of motion event expressions in English but remained to be apparently influenced by Chinese TFS patterns. As a follow-up of their series of studies on typological differences between English (satellite-framed language) as a source language and French (verb-framed language) as a target language, Hendriks & Hickmann [13] analyzed both native and learner data based on a scalar view of motion expression. They pointed out that language- specific variations like within-

language systematicity, event types, and situation types could account for the results of the learner data. While examining the linguistic constraining factors, studies have also looked into various long term learning effects, such as L2 proficiency age of L2 acquisition, and degree of L2 socialization, as well as short- term learning effects, such as conceptual structure priming [4, 18, 13]. Lulu Song, Rachel Pulverman, Christina Pepe, Roberta Michnick Golinkoff & Kathy Hirsh-Pasek [18] evaluated the effects of L2 proficiency level and study abroad experience using a written sentence elicitation task. They found that both class level and study abroad experience contributed to the adoption of L2 lexicalization bias. Exposure to L2 alone is not sufficient for L2 learners to overcome L2 bias. Empirical results of studies by Bunger et al. [4] suggest that the conceptualization patterns of bilinguals are susceptible to immediate experimental manipulation, which proves the effect of short term L2 experience. The overall picture demonstrates that bilinguals' conceptual representations are dynamic and multimodal in the sense that they can be affected by various factors.

2.3. TFS and Language Pedagogy

Previous studies on issues such as what aspects of TFS behavior constitute challenges for learners have implications for pedagogical aspects of this line of research. Many scholars have proposed explicit instructions by arguing the limitations of implicit learning in certain context. Flecken, M., Carroll, M., Weimar, K., and von Stutterheim, C. [11] investigated the extent to which French L2 users display target-like patterns and traces of German L1 conceptualization transferring. They argued that challenge for L2 learners was not the verb itself but the new clustering of the conceptual categories. The underlying language-specific patterns of conceptualization should be an explicit topic of discussion in classroom teaching, in which teacher training is the first step. By examining the effect of input frequency on Arab L2 acquisition of English motion event structure (the boundary crossing), Algnamdi, ect (2019) found that learners did not acquire the structures despite the frequent occurrence of manner verbs in boundary crossings in English. They argued that explicit teaching and learning is needed to overcome the L1 typological influence. Inspired by the findings of empirical researches as well as Talmy's [26] typological framework, Cadierno [6] proposed a proactive focus-on-form pedagogical approach to L2 motion event teaching and both comprehension and production activities, such as the aid of Total Physical Response (TPR), visual stimuli, translation, etc., are described in her proposal in order to help learners process form-meaning relations that may not have been salient to them. Although the pedagogical discussion is very suggestive, proposals have to be subjected to large amount of empirical investigation before the questions can be properly addressed. Cadierno and Robinson [8] examined the facilitative effect of pedagogical tasks of different cognitive complexity on the development of target-like motion event expression. Empirical results showed that cognitively more complexed pedagogical tasks elicited more target-like production. Caluianu (2016) conducted a classroom experiment in which two groups of Japanese L1 learners of L2 English were instructed with different teaching materials and different teaching methodology. The output of the Construction group, which received instruction focusing on motion construction, is closer to the rhetorical style of the target language, which proves instruction focusing on constructions to be an effective way to shift the learners' attention on L2 motion details. Although the studies are still relatively few, their results and conclusions are inspiring and encouraging. On the one hand, although being a substantial challenge, TFS patterns can be restructured among L2 learners; on the other hand, they teach us what factors are likely to cause most problems in second language acquisition and how this could possibly be taught. To sum up, the level of awareness in learning plays an important role for L2 learners in getting rid of the "block" of L1 thinking for speaking patterns, teaching material relating to language-specific spatial concepts must be based on careful typological analyses and pedagogical interventions to make new form-function connections explicit to L2 learners whilst processing input may yield more successful learning outcomes.

3. The Present Study

3.1. Research Questions

Efforts of TFS studies are centered on describing how concepts are expressed in particular way in a given language, which, to a large degree, rely on Levelt's [17] model of speech production whose process consists of three stages: Conceptualizing, Formulating and Articulating. During the stage of conceptualizing, also message planning, mental activities involve conceiving of an intention, selecting, ordering and tracing the relevant information, etc. As those activities require constant attention, speakers are in full awareness when generating preverbal messages. This conscious activation of conceptual information about event structure during the conceptualizing stage exerts downstream effects on the choices of linguistic forms by directing learners' attention to the mapping of meaning and form rather than to get the learners' focus on either form or meaning during the stage of formulating. In view of this, the conscious activation of conceptual information plays an important role for speakers of individual languages to fit thoughts into "readily codable" linguistic form [22]. Accordingly, in second language acquisition, it is crucial for learners to monitor the "refitting" process with full awareness. Learner's awareness of conceptual distinction facilitates the internalization of the new linguistic framework. The above discussion suggests that the level of awareness and explicit exposure in L2 learning is crucial for getting rid of the "block" of L1 thinking for speaking patterns. Therefore, this study hypothesizes that pedagogical interventions which enhance learners' L1-L2 motion event awareness have facilitative effect on the development of target TFS

patterns. The general research question that guided this study was the following: 1) Is there any pedagogical value of L2 learners' conscious knowledge about linguistic specificity in thought? 2) Is there any pedagogical effectiveness of awareness (both at the level of understanding and noticing) enhancement strategies in instructional based settings? More specifically, will adult language learners whose L1 can be characterized as Equipollent-framed language (Chinese) come to express motion events in a Satellite- framed language (English) in a classroom-based setting with pedagogical interventions which enhance learners' L1-L2 motion event awareness? The present study, which focused on the semantic component of Path and Ground, addressed if the target narrative style will be achieved with respect to 1) the description of Motion 2) the elaboration of Path information 3) the description of Ground. On the description of motion, this study mainly examines the variety and complexity of motion verbs; on the path information, this study mainly investigates path particles, ground elements and their relationship; on the description of ground, this study examines the specification of ground information in the process of scene setting.

Starting from Cognitive Contrastive Analysis approach (Wen, 2014) and the multimodal nature of concepts [3], teaching materials used in this study are designed and selected to foster learners' motion event awareness and cross linguistic awareness with multimodal strategies and typological contrastive analysis. Inspired by processing instruction (PI) whose goal is to help learners process appropriate form-meaning connections, structured input instructions are processed to push the learners to elaborate the appropriateness of the "remapping" of meaning and form.

3.2. Typological Contrastive Analysis of Chinese and English Motion Event

Typical features of Chinese motion events have been deeply discussed by scholars at home and abroad. Opinions differ significantly as to which typological category Mandarin Chinese belongs to. The major dispute lies in the complicated use and controversial nature of those words, such as, *lai, qu, shang, xia, jin, chu, hui, guo, qi, ect.*, appeared in serial verb constructions. For example, *lai* in verb phrases *zoujinlai* (walk in), *huaxialai* (slide down); *paoshanglai* (run up). The question has been asking all the time: are they main verb, verb particle, both verb and verb particle, either verb or verb particle? There are mainly three proposals. Talmy [26, 28] proposes that Mandarin Chinese is S-framed language like English as he believes that the manner verb is the main verb and those words function as satellites modifying the manner verb. Tai (2003), however, holds that the path verb is the center of the predicate and functions as the main verb or the head of a Chinese verb construction. In his analysis, *guo (cross)* in verb compounds *feiguo, zouguo, kuaguo* is verb root incorporating path, indicating typological features of V-frame language. Thus, Chinese presents a problem to Talmy's classification in terms of whether V2 is treated as the main verb or a subordinate element. The third view is that Chinese, as a serial-verb language, does not fit entirely into Talmy's dichotomy. Slobin [22] weighs both path and manner equally because those words can be used independently as path verbs and thus, should not be regarded as satellites. He revised Talmy's binary typology and treated Chinese as a third typological category, one that lies between S-languages and V-languages, named Equipollent-framed language, in which both path and manner are expressed by grammatical forms of equal force and significance.

When discrepancies are mentioned, researchers compare and analyze differences between Chinese and English motion event frames based on Talmy's typological framework, including expression of manner, path and ground, and the consequences on the level of rhetorical style of narratives. Yan (1998, 2004) compared the meaning of Chinese and English verbs and found that the semantic incorporation is more common with English verbs. That is, in the semantic domain of motion event, a verb may express the composite meanings of several semantic elements including figure, ground, motion, cause and manner. He pointed out that SLA learners should be aware of the differences in semantic incorporation of the lexical verbs between the two languages. In her data-based contrastive study, Li (2010) compared the frequency and type of motion verbs and the use of adverbial manner expression in English and Chinese samples. She argued that unlike English, a typical S-framed language, Chinese motion event expressions demonstrate a parallel lexicalization pattern, namely [motion+ manner] paralleled with [motion+path]. Zhang, Li (2012) discussed the similarities and differences in the lexicalization patterns of Path concepts between Chinese and English. They explored the nature of Chinese path verbs from diachronic and synchronic perspective and held that Chinese path verbs have lost some verbal features and should be grammaticalized into directional complements. Xu (2014) made a contrastive study of ground expressions in English and Chinese motion events. Empirical findings revealed significant difference in the number of ground information expressed, more specifically, in whether the two languages express two or more G information in the same clause. English speakers express more than two G information than Chinese speakers and Chinese speakers tend to express the starting point or the end point of motion event rather than the passing point. That's to say, Chinese speakers usually provide only one background information either the starting point or the end point in a clause, while English users provide two or more background information at a much higher rate than Chinese users.

Based on the previous findings, the present study summarized the typological contrasts between Chinese and English in terms of expression of manner, path and ground, which must be made explicit to Chinese EFL learners:

1. English possesses a greater variety of manner/cause verbs, that is, semantic incorporation or conflation of motion and manner/cause in English is more common than Chinese, while Chinese speakers tend to use ana-

lytical means of adverbials to express manner/cause.

2. In English, motion verb is often accompanied with one or more of the particles or prepositional phrases and the descriptions of Path information such as source, medium and goal are often packaged within one clause; in Chinese, only one Path element (either source or goal) is added after a serial-verb structure which is conventionally fixed, supplementary ground information is provided by isolated descriptions of locative settings.
3. English speakers prefer event conflation while Chinese speakers prefer event serialization. In English, a single clause incorporates different composites of locative trajectories, including path, ground-source, medium and goal.
4. English tends to specify the details of trajectories, i.e., provide rich path descriptions, thus leaving setting to be inferred, whereas Chinese tends to describe aspects of the static scene in which the movement took place, leaving trajectories to be inferred. This suggests a differential allocation of attention between description of movement (i.e., details of trajectories) and description of location (i.e., static descriptions).

3.3. Method

3.3.1. Participants

A quasi-experimental study was conducted with a pretest-posttest design among two intact groups of EFL learners (forty students in each group) who were second-grade non-English majors in a university of foreign studies in southern China at the time of investigation. They were randomly assigned to the experimental group and control group respectively. Their lengths of English study ranged between eight to eleven years and none of them had any experience of visiting an English-speaking country. The two groups of learners were comparable in their English proficiency as their scores in the Band 4 English proficiency test were at the same level. For the purpose of this study, their existing knowledge of motion event expression was gauged by a pretest of a free writing test (frog story). A non-parametric Mann-Whitney U test yielded no significant mean difference between the two groups in terms of motion event expression (see section 4). Thus, the two groups are considered equivalent in general L2 proficiency and knowledge about motion event.

3.3.2. Treatments

The experimental group attended treatment every week over a period of four 40-minute sessions between the pretest and posttest and a final measurement of the treatment (posttest) was conducted. Teaching materials for treatment group were designed to raise learners' awareness at level of understanding. To understand spatial concepts involved in trans locational motion event, semantic components of Talmy's framework (motion, figure, ground, path, manner) were explained explicitly with multi modal teaching materials, including oral, written, visual, gestural discourses, providing learners with embodied linguistic input explaining. For example, to explain the concept of boundary crossing, motion event cartoons involving changes of locations are employed. The pictures (from left to right) in Figure 1 depict a telic path situation from the beginning, middle, and end of a motion event. Cartoons involving general locations like flying a kite can be used as a comparison. Pictures in Figure 2 do not include a specific endpoint.

Figure 1. *Motion event involving boundary crossing (from Zhao & HU, 2018).*

Figure 2. *Motion event without an endpoint.*

Sentence (1) below demonstrates four components of in the motion event of "*go*". In sentence (2), the motion verb *"crept"* conflates motion with manner; In sentence (3), *"blew"* conflates motion with cause.

(1) *妈妈 走 进 房间*
Mama zou jin fangjian
(figure) (motion) (path) (ground)
(2) The small boy *crept* out of the house
(motion+manner)
小男孩 悄悄地 走 出了 房间
(adverbial+motion)
(3) The napkin blew off the table
(motion+cause)

Translation equivalency of the verbal examples was presented to expose the typological differences to learners which are made explicit in italics. The following translation of (4) demonstrates that English prefers event conflation while Chinese prefers event serialization.

(4) *"那周瑞家的又和知能儿唠叨了一回,便往凤姐处来,穿过了夹道子,从李纨后窗下越过西花墙,出西角门,进凤姐院中。"(《红楼梦》)*

After gossiping a bit longer with Sapientia, ZouRui's wife made her way to Xi-feng's quarters. To get there she has to go down a passage-way between two walls, *under the windows* at the back of Li Wan's apartments, *along the* foot of an orna-

mental wall, and *through a gateway* in the western corner of the compound.

A Dream of Red Mansion

More translation equivalencies and explicit instruction on the typological differences between Chinese and English were provided to the learners to compare the L1-L2 similarities and differences in motion verb lexicalization patterns, learners thus were made aware of the potential problems in processing the target language. During this phase (the first session), the learners were engaged in structured input and were not required to produce the target structures.

The overriding goal of instructions processed in the experiment was to raise learner's awareness at the level of noticing. Table 1 summarizes the instructional procedure.

Table 1. *Instructional procedure for the experiment group.*

Time	Purpose	Teaching Activities	Teaching techniques
Session 1 Session 2-3	Enhanced input to raise learners' awareness of understanding Controlled practice to raise learners' awareness of noticing	Explanation of Spatial concepts and the relations between concepts and syntactic forms Inquiring the linguistically salient aspects of events and L1-L2 typological contrasts	Multimodal input Total physical response Textual enhancement Depiction of multimodal materials Translation-based comparison Identifying the deployment of the linguistic items and grammatical constructions Translating based tasks Text reconstruction Error correction
Session 4	Communication	Reflection	Online oral tasks

In the next two sessions, students were provided with opportunities to practice what they have learned previously. To consolidate their understanding of the concepts involving motion event, the students were asked to identify the motion event expressions in given Chinese and English texts which are novel paragraphs of the two languages. The learners were then asked to compare the internal components of those identified motion event expressions in two languages and report the differences. The students worked in group of eight to read, analyze, and one of them reported their findings to the whole class. The second translation-based activity was used to force the learners to process a more target-like structure for the appropriate form-meaning connection. Students were first asked to choose from Translation A and B the one which they think is more acceptable before more translation exercises were given. The students did this part individually and the teacher check the answers in the whole class. Students were instructed to reconstruct some scenes of the picture book (Frog, where are you) in the pretest with a maximum use of their newly acquired knowledge about motion event. After the reconstruction, learners were provided with the writings by some native speakers, which promoted direct comparison of the input- output forms and maximized the equivalence between the learners' output and target input.

In the last session, reflective practice forced the students to step back from this teaching and learning experience and consider it critically in an analytical and non-subjective manner, which is an essential aspect in the pedagogical intervention of this study. The students were paired up to comment on each other's writing and reflect on what they have learned.

The control group, on the other hand, did not receive any equivalent instruction but adopted a traditional approach to teach motion verbs. Emphasis was put on the lexical meaning of verbs to direct the learners to the target form, with little or no engagement in the construal of an entire motion event. Table 2 shows the procedure of this approach.

Table 2. *Instructional procedure for the control group.*

Time	Purpose	Activities
Session 1-2	Instruction	Comprehensive input
Session3-4	Practice	Matching Paraphrasing Replacing Cloze

The learners in this group were taught a number of conflating motion verbs. The meaning of the verbs was explained as in example (5) and illustrated with examples as in (6). Exercises were designed not only to ensure correct under-

standing of the semantic features of the verbs but also to provide more exposure to the verbs used in context. Abundant and varied activities provided the learners with multiple opportunities to hear and repeat not only the target verbs but the entire motion event, although no explicit instructions about the mapping between those semantic features onto surface linguistic features were provided.

(5) creep: move slowly and quietly so you are not seen or heard

Stagger: walk with difficulty, being almost unable to stand up

(6) a. Back I went back to the hotel and crept up to my room.

b. He lost his balance, staggered back against the rail.

3.3.3. Data Coding

For the written data, only motion clauses were picked out for coding and analysis. According to Slobin (1996b: 2006), a motion event was "... the description of the movement of a protagonist from one place to another.... " That is to say, whether the position of the protagonist changes is the criterion for judging a motion event. Thus, motion clauses include verb clauses (both finite and nonfinite) involving movement of the protagonist [5]. The author and her colleague coded the motion clauses independently and, in all cases, inter-rater agreement was achieved. Based on the research ideas of Cadierno [5, 7] and the above contrastive analysis between English and Chinese, the following measurements were counted and analyzed on the data:

the variety of motion verbs, including the total number of motion verb types, tokens, and type-token ratios.

the percentage of plus-ground clauses (% PG), which refers to the distribution of plus-ground information. According to Cadierno [5], clauses which are consisted of verb+ prepositional phrases referring to the ground are plus-ground clause; clauses which are consisted of bare verbs or verbs + satellite are minus-ground clauses. For example, *He jumped out* is a minus-ground clause, whereas *He jumped out from the pocket* is a plus-ground clause.

the percentage of event conflation clauses (% EC), which refers to the distribution of event conflation, i.e., the incorporation of different path elements (source, medium, goal) in a single clause. Event conflation clauses contain more than one path elements, for example, *He jumped out from the pocket* contains only one path element, whereas *He jumped out from the pocket to the drum* contains two path elements.

the percentage of static description clauses and trajectory description of setting (% SD and % TD), which examine the learners' allocation of attention to dynamic movement or static setting.

3.3.4. Data analysis

Non-parametric statistical tests were employed for analysis of data based on both between-group (control vs. experimental) and within group (pretest vs. posttest) comparisons. Mann-Whitney U test was conducted to compare the two groups' performance in the pretest; Wilcoxon tests were conducted to compare each group's performance in the pretest and posttest.

3.4. Results

3.4.1. The Variety of Motion Verbs

The first analysis entailed a comparison of the variety of motion verbs used in the frog story narratives, focusing on the distribution of manner and cause verb use. The motion verbs analyzed in this study include manner verbs such as *walk* or *run*, path verbs such as *go* or *come*, and cause verbs such as *throw* or *take*. Table 3 shows the mean values for the types, tokens, type/token ratios, and manner and cause motion verbs used by the two groups in their pre-post tests.

Table 3. *Mean values for total motion verb and manner/cause verb Types, Tokens, and Type/Token Ratios of EG and CG in the pretest and posttest.*

	Pretest		**Posttest**	
	E-group	**C-group**	**E-group**	**C-group**
Types	5.825 (1.278)	5.875 (1.090)	9.625 (2.096)	9.950 (1.551)
Tokens	9.95 (2.773)	10.625 (2.425)	14.325 (3.024)	14.40 (1.891)
Type/token Ratio	0.608 (0.140)	0.564 (0.095))	0.677 (0.094)	0.690 (0.043)

Standard deviations are in parentheses

Mann-Whitney tests conducted on the mean scores of the two the groups in the pretest showed no significant difference in the amount of variety of motion verbs used by the two groups (p= 0.751 for Types; p= 0.208 for Tokens; p= 0.220

for Type/Token Ratios). Wilcoxon signed-rank tests were conducted to compare each group's performance before and after the treatment. Results indicated improved performance for both the experiment group and the control group with significant increases of the numbers and types of motion verbs used (ps<0.001) and a significant different type/token ratio (p=0.000). Besides, comparisons between groups in the posttest demonstrated no significant difference (p= 0.253 for Types; p= 0.546 for Tokens; p=0.682for Type/Token Ratios).

3.4.2. Plus-Ground Clauses and Minus-Ground Clauses

Comparisons were made between the occurrence of plus-ground clauses and minus -ground clauses in the narrative products. Table 4 shows the mean scores of plus-ground clauses produced by the two groups in the pre-posttests. The result of Mann-Whitney test indicated that the two groups exhibited a same frequency in their use of ground adjuncts in pre-experimental performance (p= 0.394). After 6 weeks of instruction, however, the experimental group produced significantly a greater number of plus-ground clauses in posttest (p= 0.000), whereas there was no significant improvement in the performance of the control group (p= 0.135). A comparison of the experiment and control groups in their posttest narratives also showed that the former far exceeded the latter in the occurrence of plus-ground clauses, which can be found by the result of Mann-Whitney test (p= 0.000).

Table 4. *Mean values for plus-ground clauses in the pretest and posttest.*

	Pretest		Posttest	
	E-group	**C-group**	**E-group**	**C-group**
plus-ground ratio	0.427 (1.173)	0.451 (0.117)	0.642 (0.097)	0.464 (0.116)

Standard deviations are in parentheses

3.4.3. Event Conflation

As shown in table 5, no learners employed event conflation before the instruction. Most of the plus-ground clauses (83.3% for EG; 91.6% for CG) in the pretest narratives took goal as the dominant ground element; only a small number of learners made reference to source (11% for EG; 8.3% for CG), and the reference to medium was absent. The differences in the two groups' performance on the distribution of ground information in pretest was found not significant by the results of Mann-Whitney U test (p=0.849 for source), but the difference was significant for the experiment group after 6 weeks of instruction. Results of Wilcoxon signed-rank tests showed that learners of experiment group in the posttest were able to draw on event conflation devices to express ground information: goal is still the dominant ground element but more learners made reference to source (p= 0.000); 4 learners have produced 2 cases of event conflation containing medium. On the contrary, learners of the control group remained their previous pattern.

Table 5. *Mean values for different ground information in the pretest and posttest.*

	Pretest		Posttest	
	E-group	**C-group**	**E-group**	**C-group**
Goal	83.3% (0.682)	91.6% (0.103)	83.3% (0.717)	90.6% (0.172)
Source	11% (0.095)	8.3% (0.091)	36.1% (0.379)	10.3% (0.097)
Medium	0	0	4	0
Event conflation	0	0	12	3

Standard deviations are in parentheses

3.4.4. Description of Physical Settings

In her L2 acquisition research of Slobin's thinking for speaking hypothesis within a cognitive typological approach, Cadierno [5] pointed out that to test how L2 learners describe scene settings (either static or dynamic) might show how well they have learned the target language. Following her research ideas, this study compared the description of physical settings by the participants before and after the teaching experiment. Table 6 shows how scene settings were elaborated, that is, whether static scene descriptions were provided or not. In the pretest, both groups displayed a mixed pattern: a total of 22 subjects provided a static description, 12 in the experiment group and 10 in the control group. After the teaching experiment, the distribution looked different: the experiment group exhibited an exclusive pattern that only path trajectory or dynamic movement were provided whereas learners of the control group did not follow the English pattern completely as there were still a few of static descriptions produced (13). Statistical significance revealed that subjects in the experiment group had learned to use the different target rhetorical style (p=0.000).

Table 6. *Elaboration of setting description in the pretest and posttest.*

	Pretest		**Posttest**	
	E-group	C-group	E-group	C-group
Static description	12 (30%)	10 (25%)	0 (0%)	13 (32.5%)

3.5. Discussion

This study looks into the impact of pedagogical instruction on construal of motion event among Chinese L1 learners of L2 English. Chinese and English differ from each other in ways that language expresses Motion, Path and Ground, and the consequences on the level of narrative styles. It is well acknowledged that new thinking for speaking patterns may cause great difficulties for L2 learners [22] Previous studies in SLA have suggested that L2 learners must learn (a) which particular aspects of a motion event must be attended to in the context of L2, and (b) how these semantic components are mapped onto specific L2 forms [7]. This study sees awareness enhancement strategies as effective approach to solve the thorny problem. Contrastive analysis within a cognitive typological approach studies the contrastive features of conceptual representations of motion events of two languages in contact. Multimodal teaching materials based on CA help the L2 learners' conscious understanding of the typological differences of the source and target language; processing instructions facilitate learners to process appropriate form-meaning connections. Generally, the findings show that 4 weeks of instruction produced positive effects on the learners' reconstruction of motion event.

As second language acquisition entails a process of progressive vocabulary learning, the first observation was the variety and complexity of motion verb used by the learners. As a typical Satellite-framed language, English is much richer than Chinese in the number of verbs conflating manner and motion, and manner is preferred in construing motion events in English. The semantic granularity of English manner verbs is much finer than that of Chinese, which leads to the corresponding lexeme gap (Liu, 2018). Chinese L1 thinking-for-speaking leads Chinese speakers to prefer to expressions consisting of a general Manner verb modified by a manner adverbial. For example, in English, general verb like *walk* has a rich subordinate level consisting of different ways of walking, such as *creep, tiptoe, stump, shuffle, stagger, strut, stalk, or pace.* The lower level English manner verbs are absent except for some corresponding Chinese words such as stagger (*liangqiang*) and pace (*duobu*). While Chinese use analytical expression, that is, "adverbial + walk" to convey similar information. For example, tiptoe (*to walk quietly and carefully on toes),* shuffle (*to walk slowly*), strut (*to walk proudly*), etc. Besides, English manner verbs often contain more modifying meanings. In many cases, simple analytical expressions in Chinese cannot restore the fine semantic connotations of English. For example, the semantic connotation of *strut* includes body features (*stiff*), walking style (*arrogant*), evaluation (*negative)*. As a result, to obtain a more target-like way of motion event expression, Chinese L2 learners have to obtain a very extensive and elaborated verb lexicon. Findings in this study showed that, despite of different instructions, learners have obtained a greater variety of motion verbs at their disposal. Difference in posttest performance between the two groups was not noticeable while both groups improved significantly after different treatment (p= 0.235/0.546/0.682). Mean numbers of motion verb types and tokens have both increased significantly along with a significant change for type/token ratios, a more balanced description examining the types and the total number of verb tokens produced (ps=.000). This result is not unexpected for the control group as the overwhelming emphasis of the traditional approach was put on the lexical meaning of the verbs, textual input enhancement can make the manner verbs more salient to the learners.

What was striking was that for the experiment group, not only more elaborated manner verbs were used, the learners seemed to avoid using manner adverbials to modify general verbs in their posttest writing. This was indicated by the less use of "adverbial + *verb*" phrases in their production than that of the control group (2 in 40 vs. 12 in 40). Instead of receiving incidental exposure to the input, the experiment group were provided detailed description of the different rules of the hierarchical categories of manner verbs in English and Chinese, which draws their attention to such fine-grained aspects of English verb lexicon. The result proves the pedagogical effectiveness of a conscious understanding of the typological preference of lexicalization of manner facilitated by awareness enhancement strategies.

The second aspect of investigation is about the acquisition of Path expression. Crosslinguistic and developmental evidences have suggested that typological preferences for Path expression affect syntactic packaging (Slobin 1996b, 1997; Brown & Gullberg 2010). In the case of the present study, English shows a tighter clausal packaging than Chinese. Specifically, in English, more ground adjuncts are added to a motion verb yielding a more extended Path description. In the English sentence *We drove the car across this country and up into Canada (Wo men kaiche jingguo zhege guojia, laidaole jianada),* there are two ground adjuncts associated with a single path verb (across the country / up into Canada). In Chinese, on the other hand, comparable information is spread across two clauses, each Path expression requires a separate clause (*kaiche+ guojia; laidao+ jianada).* The tight or loosing packaging of Path information is a reflection of characteristic rhetorical style of the two languages in contact. The specific indicators examined in this study are distribution of Plus-ground clauses and frequency of event conflation. In line with the previous findings [31], products of the pretest in this study also showed that L1Chinese thinking for speaking habits have a great impact on the area of path expression. Not sufficient Path information were produced in the pretest as there were only a small number of plus-ground clauses occurred (8.3% in CG and 11% in EG) and no event conflation clause appeared. Pretest data confirmed the suggestion that typological preferences for Path expression in the L1 are resistant to change. In this study, the proportion of Chinese students using path information is even lower than that of others, this is probably due to the lower language proficiency. However, it is rather encouraging to see that after receiving instruction, learners of the experiment group showed an apparent and clear-cut development. On the one hand, more locative trajectories were added to verbs of motion by means of prepositional phrases (p=.000); on the other hand, more compact expressions of complex trajectories were produced (36.1%, p= 0.000). These results showed that the instruction has elicited immediate effects on the performance of the experiment group. Although difficulties with the use of preposition and particles were still striking, the pedagogical intervention has indeed made the L2 transferring happen. The following sentences show improved performance of the learners after receiving instruction on Path expression.

"The frog ran out" (pretest)

"The frog ran away to the woods" (posttest)

"The frog crawled out of the jar and through the window into the woods" (posttest)

Regarding the learners' allocation of attention to elements of movement or setting, the pedagogical interventions have also yielded positive result. Before treatment, learners' writing products reflected the characteristic rhetorical style of their native language with higher degree of static setting descriptions: a total of 22 subjects provided a static description, 12 in the experiment group and 10 in the control group. After the teaching experiment, the distribution looked different: the experiment group exhibited an exclusive pattern that only path trajectory or dynamic movement were provided whereas the control group remained the previous pattern. As can be seen in the following examples on the cliff scene:

When the deer came to the cliff, it threw the boy down the cliff and the dog fell down too. There was a small pond below the cliff. (before instruction)

The deer ran so fast to the cliff that the boy and his dog fell from the cliff to the pond. (after instruction)

4. Conclusion

This study is designed to explore the teachability and learnability of TFS patterns and the effects of typological awareness enhancement approaches on the restructuring of motion event expression were examined. To investigate these issues, we compared the learners' writing output elicited by wordless picture books with or without prior instruction based on typological contrast studies. We found that explicit instructions of the typological framework in conceptualizing motion event affected the overall performance of the tasks positively. It resulted in more attempts at producing target-like rhetorical styles: more combination of Manner and Motion, less Manner descriptive details, more detailed and compact Path expression, and more dynamic description of trajectories. In line with the previous research proposals, some implications can be drawn from the study. First of all, knowledge about language specificity in thought can be used in teaching as a means to facilitate classroom teaching and learning; Second, teachers should enhance the students' awareness of the typological similarities and differences between the languages involved with multimodal strategies; Third, explicit instructing strategies should be employed not only to direct the learners to the target form but also the mappings of the semantic features onto the linguistic forms. Overall, the design of constructive teaching material and the planning of instruction are key determinants of language acquisition in the domain of motion event cognition, which is, to date, rarely an explicit topic for discussion in the context of language teaching. Hence, as Flecken et al. [11] has pointed out, the first step toward achieving this is to increase the teachers'

awareness concerning this level of knowledge.

In conclusion, the current study suggests that although motion event cognition is claimed to be notoriously difficult for second language learners, it is teachable to the intermediate students. As an attempt in this field, findings of this study have shown that to raise the learners' awareness of typological differences has facilitative effect on the acquisition of those uninterpretable linguistic features if acquired in naturistic settings. However, this study is limited only to adult learners of intermediate proficiency level, we have to further ask if those pedagogical interventions have the same effects on low-level learners, if they can produce durable effects that last beyond the immediate post-treatment observation. Overall, this question relates to concrete aspects of both SLA rationale and actual implementation across diverse learning contexts and conditions resulting from the diversity of L1-L2 pairs and proficiency level.

Abbreviations

Tfs	Thinking-For-Speaking
EFL Learners	Englsih as a Foreign Language Learners
L1	First Language
L2	Second Language

Author Contributions

Sanmao Zhu is the sole author. The author read and approved the final manuscript.

Conflicts of Interest

The author declared no potential conflict of interest with respect to the research, authorship, and publication of this article.

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