

## Efficacy of Cognitive Instruction in Teaching Deictic Motion Verbs in EFL Classrooms

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**Abstract.** This study investigated an alternative pedagogy to teaching motion deixis, in particular, two English deictic verbs *bring* and *take* to EFL learners. Sixty-five first year students from a university in Northern Taiwan participated in a comparative experiment. They were divided into 1) a control group (CT), receiving implicit treatment with no particular rules explained, apart from Chinese translation, and 2) an experimental group, receiving explicit Cognitive Instruction (CI). Each group was treated with four sessions (30 minutes per session) of respective instruction, and a pre-test prior to and two post tests (one post-test and one delayed post-test) after the treatment were administered to gauge participants' performance. Results indicate that the CI group made significant improvements in both short-term and long-term recall, while the CT in short-term recall only. The findings support that CI instruction of vocabulary and grammar is beneficial, and even necessary, to some aspects of EFL learning, particularly those concerned with learning deixis concepts.

**Keywords:** Motion Deictic Verbs; EFL Pedagogy; Cognitive Linguistics; Language Motivation.

### **Introduction**

EFL learners encounter basic words, such as *go/ come, bring/ take, this, here, or there* at a very early stage of their learning (Kusuyama 2005, p. 31). Despite their 'basic-ness,' they are not easy to master as their usage has proven to be challenging and confusing in many contexts. Deictic words are a case in point: When using deixis, the information of the situation of the speech participants and the deictic center, namely, the situation of the interlocutors to the time and place is crucial for correct usage (Croft & Cruse 2004, p. 60). Certain deictic motion verbs are even more perplexing for learners, as they entail different sorts

or levels of deictic shifts. With this high level of complexity, not much literature or research has been devoted to understanding their acquisition in EFL settings (Coe, 1973). Although there has been some discussion on deixis in general in recent years (Croft & Cruse, 2004, p. 59), the verbs *go*, *come*, *bring*, and *take* still have not been studied consistently in recent EFL literature.

Due to this, any effective pedagogy and learning obstacle for these verbs have remained largely unknown. Traditionally, teachers and textbooks in Taiwan have provided sentence-level examples with translations to students, a method too simple to adequately explain deixis usage which can involve various speaking contexts. It is thus not surprising after a decade of learning, many learners are not able to use them correctly, and remain confused about their usage.

This highlights the magnitude of didactics in L2 and FL (foreign language) learning which has been of great concern to researchers and practitioners, particularly in Taiwan where English has been heavily promoted as a primary foreign language. English was even briefly contemplated to be promoted as an official language in the beginning of this millennium. It shows that the government in Taiwan places great importance in the teaching and learning the language from the primary school onwards to tertiary level, as English is considered an important communication means to internationalization (Su, 2006). With the emphasis shifting from learning English as a school subject for passing exam to learning it in order to communicate in real life, teaching approaches in classrooms have slowly evolved from rote learning and grammar/translation instruction to more whole language and communicative teaching approaches in Taiwan (Zhang, 2004).

In view of this change, the current study was set out to examine the pedagogical application of a cognitive linguistics (CL) oriented approach in teaching vocabulary that has been suggested and applied by several CL researchers elsewhere (Boers, 2000; Boers & Lindstromberg, 2011; Tyler & Evan, 2004) as an alternative to rote learning and grammar/translation instruction. Boers and Lindstromberg (2011) support the advantage of applying CL to language teaching by extending the motivation concept proposed by Lakoff (1987, p. 438) and extended by Boers and Lindstromberg, (2011, p. 17) that “lexical meanings in a language is not arbitrary but motivated by language users’ experience of their physical, social and cultural surroundings”. This motivational view is derived from the basic CL framework that language is an integral part of general cognition, and linguistic phenomena necessarily reflect general cognitive process (see Evans, 2014, for comprehensive discussion). Such symbiosis has prompted several cognitive linguists (Boers, 2002; Boers & Lindstromberg, 2011) to suggest that the linguistic motivation of certain vocabulary, which can provide a rich

context for learning, should be and can be explicitly taught in language classrooms. It is also of importance to note that CL adopts a usage based language view, whereby meanings are determined by contexts. It in fact complements the general concept of communicative teaching. This approach (referred to as cognitive instruction, CI, hereafter) was hence adopted for this study by focusing on two deictic verbs, *bring* and *take*, for their intriguing differences from their counterparts in Chinese.

The cross-linguistic differences as exemplified in *bring* and *take*, have been explained by cognitive grammarians (Filmore, 1976; Langacker, 1987, 2002; Talmy, 1985) through a key concept of ‘construal’ in understanding language features. In the case of *bring* and *take*, two motion verbs in English, it is important to consider the construal of motion events. Talmy (1985, 2000) argues that motion events are constructed differently within and across languages, contributed by the differential attention paid to various stages of a motion event (Ungerer & Schmidt, 2006, pp. 218-229). Although Chinese is more similar to English, than, say Spanish is to English regarding the construal of motion events, they still differ in some aspects. Some languages prefer verbs that encode the information of Manner, some Path, and some others Figure. Some languages contain all three of them with one being more favored. Although Chinese has all three types, it prefers the MOTION + MANNER construct (Talmy, 1985). Thus, the English verbs *bring* and *take* are of the MOTION + PATH type, while their equivalents *ná* 拿 and *dài* 帶 in Chinese, can be either MOTION + MANNER or MOTION + FIGURE constructs, depending on context. Such differences highlight how translation oriented classroom instruction without explicit explanations can be inadequate.

The CI adopted in the study makes the motion and path information in *bring* and *take* explicitly available to learners. It also makes the transfer between their deictic senses and non-deictic senses explicit. According to research on polysemy (Brugman & Lakoff, 1988; Sweetser, 1990; Tyler & Evans, 2003, 2004), polysemous senses of a word are not arbitrary but connected through metaphor or metonymy. For example, the *take* in “Please take the garbage out” encodes the basic deictic sense of a MOTION+PATH schema (i.e., moving something away from the speaker, implying simultaneously removing an object from one space into another space), while the *take* in “the bus takes 60 people” refers to a non-deictic sense, conjuring up an image of objects (or people, in this case) moving from one space into another space. In short, the non-deictic senses of *take* are still related to its basic deictic schema(s) through various degrees of abstraction.

In an earlier small scale study on *bring* and *take* conducted by the researcher and an associate (Hu and Kang, 2008), the advantage of CI over an implicitly oriented and traditional method (i.e. translation) that is often practiced in the

EFL classrooms of Taiwan was explored and the study found that CI was indeed more beneficial to learning in the immediate recall. The translation group (the Control Group, CT), however, regressed. As there was no delayed post-test administered at the time, it was quite difficult to consolidate those findings.

The current study, hence, sought to expand the earlier study by incorporating a delayed post-test to explore the following issues: 1) Does a CI approach that draws on CL theory, where the motivation of language is explicitly taught, lead to a better learning outcome? and 2) Does this approach lead to a better awareness of proper usage for the learners? In order to measure learning outcome, a three-item multiple choice test was designed to be administered to observe short term and long term retention by administering a pre-test, post-test and a delayed post-test. In order to assess the degree of awareness achieved in the proper usage of the verbs, a verbal protocol was implemented whereby learners verbalized their understanding of *bring* and *take*.

The aim of the study, through teaching deictic motion verbs, is not to replace grammar-translation method per se, but to highlight the importance of teaching vocabulary for long-term retention by providing language motivation clues in meaningful contexts, with communicative purposes in real life in mind.

## **Research Background**

### *Motion Verbs and Deixis*

In terms of motion events, according to Talmy's typology, there are mainly two types: satellite-framed and verb-framed languages (S-languages vs V-languages). He believes Chinese belongs to the first type, similar to English. Some researchers suggest otherwise and they consider Chinese of a third, equipollent-framed type (Slobin, 2004). The major difference between the first two types is that the verbs in satellite-framed languages do not encode Path information as the verb-frame languages such as Spanish do. The former would use a series of prepositional phrases to indicate Path, whereas the latter conflate such information in the verbs. Although most of the Chinese motion verbs do not encode Path information as in English with the use of prepositional phrases, Chinese would use a series of verbs to indicate Path. They are not even obligatory, as in English in some cases. Due to these differences, some linguists such as Slobin (2004) argue for Chinese not belonging to this dichotomy of S- vs. E-languages.

Such characteristics of motion verbs heighten the difficulty of acquiring an L2 or FL, especially if the L1 and L2/FL are quite different in this regard can be exacerbated when motion verbs are only limitedly taught as vocabulary. As discussed above, motion verbs should be studied as part of syntax. For example, in English, the phrasal structures that follow motion verbs are crucial to their

meaning. Certain types of motion verbs such as deixis in English are even a pragmatic phenomenon as the speaker's intention is the key to right interpretation. To decode a speaker's intention correctly, contextual cues are crucial (Blakemore 1996, p. 39). It is not surprising then that the study of *deixis*, which means 'pointing to' or 'pick out' in Greek (Grundy 2000, p. 23) is subcategorized under pragmatics. Croft and Cruse (2004) state that *deixis* is the phenomenon of consulting subject's situatedness which includes temporal, epistemic, and cultural contexts (Croft & Cruse, 2004, pp. 58-59). Further, Grundy (2000) contends that deictic words are a closed class. They could be in turn clustered into three sets: person deixis, place deixis, and time deixis (Grundy, 2000, p. 26). The deictic verbs *go/ come* and *bring/ take* are hence assigned to place deixis (Grundy, 2000, p. 28). More specifically, they are known as deictic motion verbs illustrating a schema of Source-Path-Goal. As these verbs include the Path of motion information, they are also regarded as Path-conflating motion verbs (Talmy, 2000).

When interpreting this kind of deixis, the actual physical position of the participants in communication is sometimes irrelevant but the issue of perspective acts as a significant hint instead (Lee, 2002, p. 3). Take the deictic verbs *go* and *come* as an example: *come* suggests the movement towards the speaker whereas *go* implies the movement away from him/her. Nevertheless, the sentence with the first person subject, namely, 'I' and the deictic verb *come* would demonstrate an alternative image. Hence, the sentence 'I am coming over' shows the action that the speaker is moving not away but towards the hearer although the verb *come* does not lean to the perspective of the speaker but the addressee (Lee, 2002, p. 3; O'grady, Dobrovolsky, & Katamba 1997, p. 298). In this sense, the actual position is insufficient to ensure the correct use of deictic verbs. Instead, we have to take the pragmatic property, namely contexts, which usually contain information of Path movements, into our consideration.

As the difficulties with the usage of the deictic motion verbs seem to be common among Japanese learners of English, Kusuyama (2005) investigated the most notable set of the English deictic verb *go* and *come* and confined the research scope to the usage of these verbs possessed by Japanese ESL learners. The element differentiating English and Japanese is the deictic shift – English allows the speaker to take a hearer's viewpoint but this shift is not valid in Japanese language. For instance, the sentence 'I will come there' is acceptable in English but not so in Japanese. That is, the speakers' viewpoint in English tends to be transferred to the hearers easily, while the shift seems to be awkward in Japanese. This highlights clearly the diverse roles deictic shifts can play in these two languages.

Kusuyama (2005) stated that Chinese's deictic shift pattern appears to be similar to that of English. However, in the case of *bring* and *take*, its equivalents in Chinese do not require deictic shifts. Consider the English and Chinese differences in the use of *bring* and *take* as exemplified in the following sentences:

- (a) Bring a glass of water to me.  
拿一杯水給我。  
ná yì bei shuǐ gěi wǒ
- (b) Take a glass of water to your father.  
拿一杯水給你爸爸。  
ná yì bei shuǐ gěi nǐ bà ba
- (c) Don't forget to bring your textbook.  
不要忘了帶課本。  
bú yào wàng le<sup>o</sup> dài kè běn
- (d) Don't forget to take your textbook.  
不要忘了帶課本。  
bú yào wàng le<sup>o</sup> dài kè běn

As we can see, both the deictic verbs *bring* and *take* could be simply translated into the verbs *ná* 拿 in sentences (a) and (b) or *dài* 帶 in examples (c) and (d) in Chinese. The Path of movement for the verbs *ná* 拿 and *dài* 帶 in Chinese are not included in their lexical meaning as that of *bring* and *take* in English. For direction or path of the movement, *ná* and *dài* require a second verb such as *lái* 來(come), *cù* 去 (away, go) or *zǒu* 走(go), to indicate Path information, a feature which is more similar to some motion verbs in English such as *run* or *walk*, but not like verbs such as *enter*, which is a Path-conflating motion verb. Furthermore, with *lái* 來, *cù* 去 and *zǒu* 走, the verbs that encode Path information are not even obligatory in idiomatic Chinese when using *ná* 拿 and *dài* 帶. Hence, the above Chinese translations are fairly natural to the native speakers of Mandarin Chinese. In short, grammatically speaking, *ná* and *dài* are not deictic verbs as *bring* and *take* are, at least in their basic senses in English. Hence, from translation alone, it is nearly impossible to differentiate the use of *bring* from *take*. Owing to such differences, students tend to get confused with the use of these deictic verbs in English. This confusion can often be exacerbated by the non-deictic usages of *bring* and *take*; hence, an effective pedagogy is urgently needed. This pedagogy should not only show deictic senses of the said verbs clearly, but also separate them from their non-deictic senses in order to facilitate coherent learning.

*Current Classroom Practices*

In FL classrooms, repeated but varied practices and drills are regarded as part of an indispensable method for students to master the target language. Coe (1973) believes that the explanation of the usage of these deictic motion verbs *come*, *go*, *bring*, and *take* would be exceedingly simple; nevertheless, the adoption of the practice of those verbs would be a challenging task for teachers. He warns that non-contextualized practice, such as grammar-translation, is dangerous when students are not exposed to the knowledge that their usage depends on the extra-linguistic information.

Coe further asserts that despite the fact that the extended use of those verbs could be fairly confusing, it somehow gets ignored in classroom learning. He mentions that the first extended use takes place when the speaker is neither at the beginning nor at the end of movement (Coe, 1973, p. 138). For instance, he explains with a sentence describing the route by which Indonesian businessmen exported their spices to European countries in the 17<sup>th</sup> Century: “Indonesian businessmen went to Europe and took spices with them.” In this context, the use of *go* and *take* is the first extended use. The second extended use proposed by Coe is that ‘the speaker’s choice is determined not by his physical position but by where he is in his thoughts’ (Coe, 1973, p. 138). From the extended use of those verbs, it can be seen that the choice of the verbs is not arbitrary and might alter on the ground of the state of the speaking circumstance. In other words, the choice of deictic verbs depends on the speakers’ viewpoint, so the deictic center shifts according to speaker’s mental location.

With such complexities in mind, it is important to note that the grammar-translation method that Coe (1973) and Kusuyama (2005) criticize is not an issue in itself. In fact, this method, when applied appropriately can be useful (Cook, 2010). In the case of *bring* and *take*, however, when the difference in typology between the target and native language is relatively big, such as that of English and Chinese in the motion event construct, the translation method alone may not be appropriate or sufficient.

Although Coe’s (1973) remarks on deictic verbs in classrooms were made more than three decades ago, a recent brief survey of English textbooks used in schools in Taiwan by the researcher indicates that apart from providing the translation for *bring* and *take* and some example sentences for each verb, there is little elaboration, for instance, of hearer’s and speaker’s physical as well as mental shifts. A semi-formal interview of 26 junior high school teachers in the Taipei metropolitan area, conducted in 2008 by the researcher, supports this observation (Hu and Kang, 2008). The teachers were asked 1) if they knew about the differences between *bring/take*, and 2) to describe their didactics. They had all been informed about the purpose of the interview and agreed to participate anonymously. It was found that all of them except one would use Chinese *ná* 拿 and *dài* 帶 to explain the differences between *bring* and *take*, showing translation was an essential part of their lessons. Although more than one third of the

surveyed teachers claimed they knew the difference but their eventual interpretations were not entirely accurate. Only one teacher's explanation was closer to the deictic shifts discussed above, but said there was no time to explain their differences in class and believed learners would 'pick them up' as time passes. More than half of the interviewees expressed similar sentiment. Unfortunately, as certain FL knowledge needs a great deal of noticing, awareness raising, and explicit instruction for acquisition to occur, it is indeed imperative to explore different approaches (Schmidt, 2001).

### *CI Pedagogy*

Lakoff (1987) opines that "it is easier to remember and use motivated knowledge than arbitrary knowledge" (1987, p. 346). This observation has provided a basis for a series of CL-inspired pedagogical studies in L2 and EFL. Csabi (2004) summarizes five possible motivations for word meanings: conceptual metaphor, conceptual metonymy, conventional knowledge, image schemas and construal (2004, p. 235). Conceptual metaphors and metonymies have been incorporated into many of Boers' (2000, 2004) and Boers and Lindstromberg's (2008a, 2008b) research. They have for several years espoused the application of CL to the FL classroom in many of their research studies on teaching vocabulary and phraseology in recent decades. They argue for the merit of explicating the cognitive motivations of language to learners based on their empirical findings. In one study, Boers (2000) applied conceptual metaphor theory (CMT) proposed by Lakoff and Johnson (1980) to teaching words describing upward and downward trends in economy (e.g. *soar*, *peak*, *dive*, and *plunge*) to French speaking university students and found the CL-inspired approach elicited better learning outcome than the control group that was treated with translation without CM clues provided.

Similarly, Csábi (2004) taught two English verbs *hold* and *keep* and their polysemy senses to Hungarian secondary school children (13-15) with a CL-inspired approach. As the participants were relatively young, Csábi was careful not to make direct reference to terms such as "metaphor," "metonymy," or "image schemas" during teaching. Nonetheless, Csábi ensured that the participants in the experimental groups understood the cognitive motivations that give rise to the various senses of the said verbs. They were treated with schema like drawings to understand the motivations of various senses. Results show that their learning outcome was significantly better than the control groups which only received translation instruction.

CMT has often been incorporated into teaching English chunks such as idioms and phrasal verbs (PVs). Yasuda (2010) experimented with phrasal verbs involving five particles: *up-down*, *into-out*, and *off* to 115 Japanese university students. These particles are all motivated by orientational metaphors such as DOWN IS LOWERING/DECREASING, OFF IS DEPARTURE/SEPARATION,



UP IS MORE VISIABLE/ ACCESSIBLE, and so on. The experimental group was instructed with these clues when learning target phrasal verbs while the control group was given a list of these phrasal verbs and their Japanese translation to memorize. The test design involved previously learned PVs (“exposed”) and new PVs (“unexposed”) to support Yasuda’s postulation that CM clues should be able to aid learners to predict never encountered PVs. The test results indeed support this hypothesis, and another hypothesis that there should not be any marked difference between the outcomes of exposed PVs. Yasuda explains that when the target PVs are already stored as a lexical unit in the mental lexicon of the learners, the CL instruction does not seem to make much difference from the traditional method (2010, p. 261). Yasuda concludes her study by stating that increasing the awareness of the cognitive motivations of the language, such as orientational metaphors in this case, can greatly aid the learning of PVs for the EFL learners than mere memorization and translation.

All the works cited above also rely heavily on the image schema theory on spatial particles that was pioneered by Brugman and Lakoff (1988), who propose various schema-like images in explaining the English spatial particle (SP), *over*, in an attempt to illustrate how its senses vary and are related to one another. These images, they argue, are based on the ‘image schemas’ deriving from our constant bodily interactions with the world around use (Lakoff, 1987; Johnson, 1987), and consist of key components such as ‘Landmark,’ ‘Figure,’ ‘Ground,’ and ‘Path.’ They show different constellations of these components to represent the polysemy senses of *over*. Langacker (2002), Lindstromberg (1998), Evans (2010), and Tyler and Evans (2003, 2004) continue with similar schema-like images in analyzing and illustrating several other SPs and motion events. Their analyses have provided a useful tool for practitioners to experiment with cognitive instruction and compare its efficacy with other more traditional approaches. Such an instruction has been used in several studies for pedagogical purposes (Hu & Ho, 2009; Lam, 2003; Luo, 2013; Winke & Kim 2002) which have all proven to have some merits in FL classrooms.

In light of this, this study applied a series of image schemas for the various senses of *bring* and *take* that incorporated the shifts of speaker’s/hearer’s viewpoint visually as treatment materials, which had been developed by the researcher and Kang’s earlier small study (Hu & Kang, 2008). They were used as context cues in that study. These schemas, though simple in form, can capture a comprehensive scenario that shows clear interactions among Agent, Path, Goal, and Landmark—all the elements that are necessary for understanding major conceptualizations in grammar. Csábi (2004) applied some schema-like drawings such as a circle with an X inside and outside to indicate the schema of *keep in/out* in her experiment, but did not give any visual aid to the control groups, which could have compromised the findings (Boers and Lindstromberg,

2011, p. 32). To minimize this confounding factor, similar to the researcher's earlier study (Hu & Kang 2008), the current study ensured that both groups in the experiment received visual input. This experiment also presented the extended senses of *bring* and *take*, which are not deictic *per se*, in a systematic way. When learning the schemas of the basic meanings well, in this case, the deictic senses of *bring* and *take*, learners should have less difficulty in learning their extended senses, as suggested in Yasuda's study (2010).

In the earlier study (Hu & Kang, 2008) which applied image schemas and language motivation to the experimental group (CI), it was found that CL inspired approach improved learning of *bring* and *take* significantly, while the control group (CT, also translation group) regressed significantly in the immediate post-test. The CI group made significant improvement especially with *bring* in both deictic and non-deictic senses. The verbal protocols from the group showed that the participants had some awareness of the image schema and deictic shifts that had been taught to them, while these were all absent in the CT group. As there was no delayed post-test, it was quite difficult to determine what could have contributed to the regression. Furthermore, as all senses of *bring* were taught before those of *take*, it could have been a memory bias attributing to a better learning of *bring* than *take* in the CI group. The current study, thus, incorporated a delayed post-test. Some treatment methods, such as presenting *bring* and *take* in the same teaching session instead of in different sessions, and test design were also modified from two-item choice test to three-item choice test to increase the validity of the results. Details of the design are presented in the Method section.

## Method

### *Participants*

Two groups of first year non-English language majors at a college in northern Taiwan were recruited for the study. Their English proficiency was categorized as intermediate based on the General English Proficiency Test (GEPT) they had taken prior to college. GEPT is a norm-based multiple-choice test which targets English learners at all levels in Taiwan. This test was designed specifically in correspondence to Taiwan's English education framework.

Upon entering the university, they had been randomly assigned into two classes by the university (Class A and Class B of the department they belonged to). They took many mandatory courses in the first year based on such division. Freshmen English was such a course they had to take with fellow students from the same class. In order to boost voluntary participation, and accessibility to the time and location for the experiment, the convenience sampling technique was adopted to recruit participants from the class they were in for Freshmen English. The participants for CT were recruited from Class A (N =27), while those for CI

from Class B (N = 38). Their proficiency level was comparable and considered suitable for the experiment. Boers (2004) observes that intermediate learners seem to be more open to this novel pedagogy and more willing to take risks with various CM clues, while advanced learners are more set in their well-established strategies and thus less adventurous with this novel approach. As for elementary learners, Boers points out, this novel approach may still be too abstract for them. Certainly, such observation may not apply to all CL-inspired studies. However, with the two target verbs in this investigation, we believe, based on Boer's suggestion, that intermediate learners would be an ideal group.

At this university, all freshmen need to attend one, four-hour English class per week, which is divided into two sessions (one focusing on reading-writing and the other on listening-speaking). Additionally, most of their assigned textbooks are written in English but their teachers teach in Mandarin Chinese. In other words, first year non-English majors spend four hours per week attending English classes on average, with some extra hours devoted to preparing materials in the textbooks. The time spent on this varies from student to student. It was not known how many hours per week the participants in this study spent on learning English, but according to the instructor of their listening and speaking class, they all seemed to be highly motivated learners.

### *Design*

According to the Freshman English classes (Class A and Class B) these participants had been enrolled in by the university, the researcher recruited students from Class A to be in the control group (CT, Class A) receiving Chinese translation-only instruction, and students from Class B in the experimental group with cognitive instruction (CI). They were given a pre-test to record their knowledge concerning the usage of the verbs *bring* and *take* at the time when the experiment began. A post-test was administered after a four-week treatment to gauge immediate recall. Each treatment lasted 30 minutes. One week before and after the treatment were reserved for the pre-test and immediate post-test; a delayed post-test was administered four weeks after the immediate post-test for longer term retention.

The treatment and test materials were derived from example sentences selected from various sources: Longman Dictionary, Oxford Dictionary, Cambridge Dictionary, Collins Cobuild English Usage, Longman Dictionary of Common Error, and British National Corpus. They were selected based on frequency and the proficiency level of the target participants, including both deictic and non-deictic use of the two verbs in question.

*Bring* (4xdeictic and 4xnon-deictic) deictic senses include: 1. To carry somebody (sb) or something (sth) in the direction of the person who is speaking, 2. to carry sth or be accompanied by sb else, 3. to carry sb or sth to a place or person, and

4. to carry sth or sb to the place he is talking about. *Bring* non-deictic senses are: 1. To result in or cause sth, 2. to produce sth as profit or income, 3. to cause sb/sth to do sth or be in a certain state, place, feeling, or position, and 4. To cause sb to move in the way specified or in a particular direction. For *take* (4x deictic and 5x non-deictic) deictic senses, they are: 1. To carry sb/sth or accompany sb from one place to another, 2. to remove or obtain sth from a particular place or source, 3. to remove sth from its proper place without permission or by mistake, and 4. to gain possession or control of sth, capture or win sth. *Take* non-deictic senses include: 1. To accept or receive sb or sth that is offered, suggested, or given, 2. to be able to endure or bear something, 3. to (a) hold or adopt a view, an attitude, etc., or (b) consider sb or sth as an example, 4. to (a) react to sb or sth or (b) consider, understand, interpret them in a specified way, and 5. to choose what s/he needs or sth to be the correct or suitable size, type, etc. for a particular person or thing.

Initially, the examples of these senses, 66 of them, had been selected and designed into two-item choice questions (*bring* or *take*) that was used in Hu and Kang's study (2008). They had been tested on another group of students who did not participate in the experiment for the reliability and validity of the test. After several analyses, 50 of these questions were finally chosen for the study. The remaining 16 items and some from the 50 were then adapted and modified for treatment material. For the current study, to increase the test's reliability and validity, the 50 items were modified into a three-item multiple choice test with four additional motion verbs (i.e., *make*, *turn*, *hold*, and *give*) and ten controlled questions that are not related to *bring* and *take* were also added to expand the test into a sixty item test.

Similar to the previous study (Hu & Kang, 2008), the participants in this study were asked to verbalize and write down how they made their decisions through think-aloud protocol method in order to understand participants' choices and to gauge awareness and possibly knowledge. Based on their verbalization, their metalinguistic knowledge was coded and analyzed to determine progress.

#### *Treatment*

Each group received four sessions of treatment, with each session lasting approximately 30 minutes. In contrast to the previous study (Hu & Kang, 2008), senses of *bring* and *take* were taught together in one session. The first three sessions included two *bring* senses and two *take* senses, while the last session contained two *bring* sense and three *take* senses. All deictic senses were taught before their extended senses. Both CT and CI groups were first provided with the deictic use of these two verbs *bring* and *take* and a number of sentences acting as examples. A minimum of four sample sentences for each sense, but there were five sample sentences for the first basic deictic sense of *bring* as they

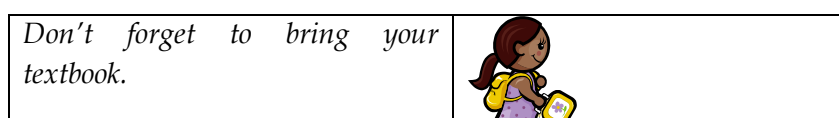
were all fairly short sentences. CT group was supplied with Chinese translation and pictures following those examples (see Figure 1), whereas the participants of CI group were provided with English example sentences without Chinese translation. The Chinese translation was checked by two other native speakers not involved in the study for idiomaticity prior to the treatment.

The CI group was exposed to cognitive explanations that involved path information and shift of deictic center which were in turn illustrated in schema like images of these two target verbs (see Figure 2). This design was to highlight the necessity of taking the viewpoint of the speaker and the location of the deictic center, into their consideration. What was different with this design from Hu and Kang's (2008) was the translation with the CT group. The translation in Hu and Kang's study did not always included 來 *lái* (come) and 去 *qù* (go) *cyù*, the verbs that show PATH, as they are not obligatory in Chinese. In the current study, information of 來 *lái* and 去 *qù* were always provided, although without any explicit explanation. Despite the difference in treatment, it was ensured that the total treatment time both groups received was the same.

The design of teaching materials, as in the previous study (Hu & Kang, 2008), also includes the non-deictic use of *bring* and *take*. Learners in the CI groups were made aware through similar schema-like drawings with deictic meanings that these usages are still related to their more prototypical meanings, so presenting them in a non-arbitrary way should help learners understand that the phenomenon of polysemy is not random, and learning the basic meanings of these two verbs can help predict, to some extent, their extended meanings. CT group members, similarly, were also shown the pictures, ensuring both groups' input quantity and quality were comparable, but with no emphasis on shift of deictic center. Pictures for extended meanings did not show any obvious connection with their more basic meanings. Instruction language in both groups was mainly Chinese. English was used when example sentences were explained, and all participants were encouraged to ask questions in their native language. The instructor for both groups was the same instructor who was also involved in the research. There certainly was a risk of the Halo Effect (Nisbett & Wilson, 1977; Thorndike, 1920), but it was minimized as much as possible by scripting all instructions beforehand as much as possible to ensure consistency and reduce biases.

Figure 1

*Treatment of Control Group*





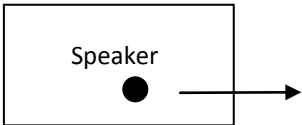
不要忘了帶課本來 lái (come)	
Don't forget to take your textbook.	
不要忘了帶課本去 cyù (go)	

Figure 2

*Treatment of Experimental Group*

Don't forget to bring your textbook.	
When the movement is towards speaker, we should choose the verb 'bring'.	
Don't forget to take your textbook.	
When the movement is away from speaker, we should choose the verb 'take'.	

**Results**

Through the test-retest reliability test on the scores of the CT group (N=27), significant correlations (Pearson's) between their pre- and post-test ( $r = .479^*$ ,  $p < .05$ ), and also between the post-test and delayed post-test ( $r = .644^{**}$ ,  $p < .01$ ) were able to be established, demonstrating stability in test-takers' behavior. The validity of the test through item discrimination analysis (paired samples t-test) comparing the top 27% and the bottom 27% of participants' scores was also found to be highly significant ( $t(16) = 6.39$ ,  $p < .001$ ,  $r = .83$ ) as shown in Table 1.

**Table 1***The Analysis of paired samples t-test for the Top 27% and Bottom 27% (Validity)*

Groups	M	SD	t-value	r
Top 27%	69.33	3.87	6.39***	.83
Bottom 27%	48.89	8.78		

Note: \*\*\*  $p < .001$

Firstly, analysis of the pre-test results without referring to students' protocols, from both groups shows they possessed similar knowledge of *bring* and *take* before treatment as the difference is not significant ( $t(16) = .62$ ,  $p > 0.05$ ,  $r = .07$ ).

Table three below shows the pre-test, post-test and delayed post-test results of the CT and CI groups. Tables 3 and 4 illustrate the progress made in both groups in the immediate and delayed post-test. It can be seen that both CT and CI made progress (Independent t-test) in the short term and long term time frame, i.e., from pre- to post-test and from pre- to delayed post-test respectively, but with CI group making significant improvement in both areas ( $t(26) = -4.44, p < .001, r = .32$  for the former;  $t(37) = -6.44, p < .001, r = .41$  for the latter). Furthermore, the CT group regressed slightly from post-test to delayed post-test ( $MD = -.15$ ), while the CI group improved ( $MD = 1.37$ ), although the difference is not significant.

**Table 2**  
*Descriptive Statistics for CT and CI scores in three tests*

Tests	Group	N.	M	SD
Pretest	CT	27	60.15	10.21
	CI	38	58.58	9.99
Posttest	CT	27	63.78	13.34
	CI	38	65.21	9.25
Delayed posttest	CT	27	63.63	10.12
	CI	38	66.58	7.29

**Table 3**  
*Paired samples t-test of Multiple Comparisons in CT Group*

Tests Comparison	Mean Difference	SD	t-value	r
Pretest to Posttest	3.63	12.32	-1.53	.15
Pretest-Delayed Posttest	3.48	9.78	1.85	.16
Posttest-Delayed Posttest	-.15	10.32	.08	.00

**Table 4**  
*Paired samples t-test of Multiple Comparisons in CI Group*

Tests Comparison	Mean Difference	SD	t-value	r
Pretest - Posttest	6.63	9.21	-4.44***	.32
Pretest-Delayed Posttest	8.00	7.65	-6.44***	.41
Posttest-Delayed Posttest	1.37	6.79	-1.24	.08

Note: \*\*\*  $p < .001$

An independent t-test was administered to determine whether there were intergroup differences in the short term and long term recall. It was found that the progress recorded in the long term time frame (from pre-test to delayed post-test), the CI group outperformed the CT group significantly with a nearly medium effect size. ( $t(63) = -2.09, p < .05, r = .25$ ), but not so in the immediate recall, and there was no significant difference between them from post-test to delayed post-test, either.

**Table 5**  
*Independent T-test for CT and CI Intergroup Comparison*

Tests	Group	MD	SD	Minimum	Maximum	<i>t-value</i>	<i>r</i>
Pre-and Posttest	CT	3.63	12.32	-20	30	-1.13	.13
	CI	6.63	9.21	-14	32		
Pretest and Delayed posttest	CT	3.48	9.78	-16	20	-2.09*	.25
	CI	8.00	7.65	-8	24		
Posttest and Delayed posttest	CT	-.15	10.32	-14	24	-.67	.08
	CI	1.37	6.79	-14	20		

Note: \* $p < .05$ .

The participants' verbal protocols were analyzed with the coding from 1 to 5, with 1 standing for correct answer (ans) and correct protocol, 2 for correct ans, wrong protocol, 3 for wrong ans, correct protocol, 4 for both wrong, and 5 for correct ans, no protocol. Results are presented in percentage (Table 6) to reflect their awareness of the usage of the target verbs.

**Table 6**  
*Coding of Students' Protocols in three tests*

Coding	CT			CI		
	Pretest %	Posttest %	Delayed Posttest %	Pretest %	Posttest %	Delayed Posttest %
1	3.11	20.74	13.70	5.74	27.16	28.37
2	14.52	14.89	22.52	16.11	15.37	18.79
3	.45	5.41	3.63	.89	7.84	7.37
4	39.48	30.96	32.59	40.79	27.00	26.37
5	42.44	28.00	27.56	36.47	22.63	19.10
Total	100%	100%	100%	100%	100%	100%



Note. 1: correct answer (ans) and correct protocol, 2: correct ans, wrong protocol, 3: wrong ans, correct protocol, 4: both wrong, 5: correct ans, no protocol. The figures above demonstrate that both the CI and CT group members increased their awareness of the usage of the target verbs in the immediate recall, as shown in coding 1 (3.11% to 20.74 % CT, 5.74% to 27.16 % for CI). However, the CI group continued to make progress in the long term recall (27.16% to 28.37%), whereas CT regressed (20.74% to 13.70%), suggesting that CI approach helped with long-term retention. This can be corroborated by the less use of wrong protocol (18.79%) in the delayed post-test of coding 2, comparing with the 22.52% in the CT group. Both groups also increased in their attempts to apply their newly learned knowledge to explain the target verbs, as seen in coding 5, where the figures for no protocol reduced in both groups.

When the target verbs were examined separately, it was found that CI group made significant progress in the deictic senses of *bring* in both the short and long term time frame ( $t(37) = -7.21, p < .001, r = .48$ ;  $t(37) = -2.19, p < .01, r = .17$  for pre- to post-test and pre- to delayed post-test respectively), whereas in the time frame from post-test to delayed post-test, CI regressed significantly. Moreover, it made highly significant progress in the non-deictic senses of *bring* in the immediate and long-term recall ( $t(37) = -5.65, p < .001, r = .39$ ;  $t(37) = -4.53, p < .001, r = .35$ ), while moderately significant progress in *take* in the two long term time frames ( $t(37) = -2.33, p < .01, r = .15$  for post-test to delayed post-test,  $t(37) = -2.20, p < .001, r = .17$  for pre- to delayed post-test).

As for the CT group, they made significant progress in the deictic senses of *bring* ( $t(26) = -3.89, p < .001, r = .31$ ) and its non-deictic senses ( $t(26) = -3.73, p < .001, r = .36$ ) in the short term time frame (pre- to post-test). They did not make much gain with the deictic senses of *take* in the short-term recall ( $t(26) = .00, p > .05$ ) or in the two long-term recalls—from the post-test to delayed post-test and from the pre-test to delayed post-test ( $t(26) = -1.24, p > .05$  and  $t(26) = -1.24, p > .05$  respectively), and regressed slightly in its non-deictic senses.

## Discussion

It seems raising the awareness of PATH information in this study, with the CI group more explicitly, and with CT group more implicitly, did lead to some degree of understanding among the participants of both groups in the short-term recall, although the CI showed a significant advantage in the long-term recall (pre- to delayed post test). A few participants in the CI group would draw the schemas they learned in class during the post-test to illustrate the path information. Some participants would say *bring* as in “He asked if he could come to your party and *bring* a friend with him” is not “away” from the “he” and is moving toward the addressee, indicating some awareness of the deictic shift. Some participants would add 來 lái (come) or 去 cyù (go) and 走 zǒu (go) specifically to indicate different directions the two target verbs entail. Some

participants even demonstrated that the non-deictic senses of *bring* and *take* are the abstract extension of their deictic senses by saying “抽象 *chou xiàng*” (“abstract”) as in “Her energy and talent *took* her to the top of her profession.” One participant gave a schematic drawing for “What did you *take* this comment to mean,” showing the “comment” has been moved from one space into another space which is the brain, even though he/she could not verbalize the knowledge he/she gained from the instruction. The drawing did illustrate that his/her understanding of the derivation of the abstract sense of *take*, is somewhat connected to its basic sense. Unlike in the Hu and Kang’s study (2008), the number of those who could not verbalize their choices in both groups dropped, and the number of verbalizations giving wrong protocols also dropped.

In the CT group, some of the subjects would say *take* is like 帶 *dài*, which is to carry with the speaker, while *bring* is like 拿 *ná*, which is held by hand, apparently resulting from L1 transfer. However, some would use 來 *lái* and 去 *cù* to indicate whether bring or take was moving away or to the speaker. They were also able to make progress in the immediate post-test with *bring*’s deictic senses. Similar to Hu and Kang’s study (2008), none of them indicated any knowledge of the connection between the deictic and non-deictic senses of the target verbs. However, providing them with 來 *lái* and 去 *cù* information in Chinese seemed to help their learning of the non-deictic senses of *bring* as well. Judging from the data from Hu and Kang’s study and this study, *bring* arguably appears to be easier to learn than *take* to Taiwanese EFL learners even though the memory bias was reduced in this experiment by presenting *bring* and *take* simultaneously instead of successively. In short, the Motion+Path schema is crucial to learning the target verbs, be it explicitly taught or implicitly implied in learners L1.

This finding can be supported by Luo’s study (2013), who recruited two groups of participants for her PVs instruction, with one group receiving translation, while the other CI. Luo added extra PATH information in the translation group by providing, for example, 蓋起來 *gài cǐ lái*, along with 掩蓋 *yǎn gài* for to *cover up*. Luo used 起來 *cǐ lái* (rising + DIRECTION) to illustrate one extended sense of *up* which is “covering an area completely.” However, Luo presented such clues implicitly without consciously drawing learners’ attention to them, while in the experimental group these cognitive clues were explicitly explained without translation and aided by corresponding image schemas. Their learning outcome, as discussed previously, showed that the CI group had significantly better long-term retention in the productive task in both basic and extended/abstract PVs. However, this advantage disappeared somewhat during short-term recall. As for comprehensive tasks (multiple choice questions), the control group also made good progress in basic and extended senses for short and long-term recall.

Nonetheless, the advantage of CL-inspired approach seems to lie with long-term retention. It seems knowing how language is motivated helps learners to be able to recall even after some time lapse such as over two months after the initial treatment. Luo's (2013) study and those of Condon (2008), and Hu and Ho (2009) seem to support this finding. Furthermore, this study on learning extended senses (non-deictic) of the target verbs also seem to corroborate Yasuda's (2010) findings that understanding the motivation of language facilitates the learning of newly encountered vocabulary and phrases. With these findings, this study proposes that deictic verbs such as *bring* and *take*, which entail complex grammatical and pragmatic rules, would benefit positively from a CL-inspired instruction in which language motivation is explained. Conversely, this type of verbs may not receive long-term benefit from translation-only instruction without incorporating some more explicit awareness-raising activities regarding their deictic shifts and the connection to their non-deictic senses.

### Conclusion

Results of the study strongly support the importance of combining theory and pedagogy. They show that CL can have some positive contribution to the EFL classroom. They also consolidate the researcher's earlier findings (Hu & Kang) that CI approach could enhance the teaching and learning of motion deictic verbs. Above all, this study demonstrates the pedagogical potential of CI in facilitating better long-term retention of key vocabulary. Future research could focus on its efficacy on younger learners (10-17 years of age), who arguably need to know the correct usage of these two verbs, at least regarding their deictic senses, is required. There are very few studies on this age group. A previous study (Yang & Hsieh, 2010) that relied on cognitive instruction in teaching phrasal verbs to senior high school students in Taiwan did not support its merit. Hence, future research should focus on this particular age group. Apart from the age of learners, different levels of proficiency should be investigated to consolidate what Boers (2004) suggested regarding the susceptibility to CL-inspired approaches. It would also be of great value to test on less motivated EFL learners, the so-called low achievers, to determine if the CI approach would work well on them.

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