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# The Routledge Handbook of Chinese Second Language Acquisition

*Edited by Chuanren Ke*

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# Cognitive linguistics approaches to Chinese second language acquisition

*Ning Yu and Ben Pin-Yun Wang*

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## Historical perspectives

Cognitive linguistics (CL) is a theoretical paradigm or enterprise for the study of language as an integral part of cognition and culture. As characterized in the literature – in particular, Evans and Green (2006), Evans, Bergen, and Zinken (2007), Geeraerts (2006), Geeraerts and Cuyckens (2007) – on which our survey in this section is mainly based, CL as a modern school of linguistic thought and practice originally emerged in the late 1970s, out of dissatisfaction with formal approaches to language, which were dominant at the time in linguistics and cognitive science. Through a decade of rapid growth in momentum in the 1980s, CL had already surged into “a broadly grounded, self-conscious intellectual movement” by the early 1990s (Langacker, 1990, p. ix). Today, the CL movement is “one of the most rapidly expanding schools in modern linguistics and cognitive science” (Evans, Bergen, & Zinken, 2007, p. xiii).

CL is best described as a ‘movement’ or an ‘enterprise’ because it does not constitute a single, closely articulated theory of language. Rather, CL consists of a cluster of broadly compatible approaches that share a common set of core commitments and guiding principles (Evans, Bergen, & Zinken, 2007; Geeraerts & Cuyckens, 2007). The two fundamental commitments that characterize CL are the Cognitive Commitment and the Generalization Commitment (Lakoff, 1990). Both commitments reflect the rejection by cognitive linguists of the modular approach to language and the mind. This approach, particularly associated with formal linguistics, holds that the human mind is organized into distinct ‘encapsulated’ modules of knowledge, and language is one of them. The first primary commitment, the Cognitive Commitment, asserts that the general principles of linguistic structure proposed should accord with what is known about human cognition from other disciplines, especially psychology, artificial intelligence, cognitive neuroscience, and philosophy. Cognitive linguists are thus dedicated to describing, explaining and modeling language in view of converging evidence from other cognitive and brain sciences. Arguing against the existence of a distinct language module, CL maintains that what is reflected in language and linguistic organization are general cognitive principles, not cognitive principles specific to language. The second key commitment, the Generalization Commitment, compels cognitive linguists to seek general principles that can account for all aspects of language. In contrast to formal approaches to the study of language, which often dissect the language faculty into different subfields, or ‘modules,’ such as phonology, syntax, and

semantics, CL focuses on the fundamental organizational features shared by the superficially distinct ‘modules’ of language. One example is that cognitive linguists have achieved considerable success in developing a unified theory that treats lexicon and syntax as a continuum rather than as distinct components of language (Evans & Green, 2006).

Central to the theoretical position of CL, the notion of *embodiment* emphasizes the role of the human body in grounding and framing human cognition within the physical and cultural context. In contrast with the Cartesian mind-body dualism, the embodiment hypothesis argues that the body shapes the mind. Therefore, the mind is embodied in that it is crucially shaped by the particular nature of the human body, including our perceptual and motor systems as well as our interactions with the physical and cultural world. The mind, however, is not shaped universally because the body itself may take different ‘shapes’ in different cultural models in the first place. Cultures may construe the body and bodily experiences differently, attributing different values and significances to various body parts and organs and their functions. Various cultural construals of the body and bodily experiences may motivate different schematizations and conceptualizations, which give rise to varied perspectives in the understanding of the world (Yu, 2015). This view is what cognitive linguists call ‘socioculturally situated embodiment’ as they seek a better understanding and articulation of the relationship among body, culture, and cognition (Frank, Dirven, Ziemke, & Bernárdez, 2008; Ziemke, Zlatev, & Frank, 2007). With the embodiment premise, CL asserts that the meaning we construct in and through language is not a separate and independent module of the mind, but it reflects our embodied experience.

One of the basic tenets of CL is the primacy of meaning on linguistic analysis. CL emphasizes the foundational point that, as an instrument for organizing, processing, and conveying information, language is all about meaning and has to be analyzed with a focus on meaning. Therefore, CL research aims to unveil the nature of conceptual organization in language, with the linguistic representation of conceptual structure as its main concern. Geeraerts (2006) further pinpoints a number of characteristics of the way CL thinks about linguistic meaning. First, linguistic meaning is perspectival in nature. Language does not mirror objective reality. In fact, meaning involves construing the world in a particular way or imposing a perspective onto the world. The second characteristic is the encyclopedic view of linguistic meaning. That is, linguistic meaning is not separate from other forms of world knowledge; it involves knowledge of the world that is integrated with our other cognitive capacities. Another crucial aspect of linguistic meaning is that it is experientially grounded and usage-based. CL postulates that knowledge of language is tied to use of language. That is, CL is a usage-based model of language with the belief that our experience of actual language use determines how we come by more abstract patterns. This model has important implications for first language acquisition research, one of which is that children would learn their first language through extracting regularities from the input they receive (Tomasello, 2003).

As outlined above, CL offers crucial implications for the field of second language acquisition (SLA). Since the turn of the twenty-first century, research on the application of CL to second language (L2) learning and teaching has grown considerably, with the publication of numerous monographs and edited volumes (e.g., Achard & Niemeier, 2004; Bielak & Pawlak, 2013; Boers & Lindstromberg, 2008, 2009; Boers & Littlemore, 2003; De Knop, Boers, & De Rycker, 2010; Holme, 2004, 2009; Littlemore, 2009; Littlemore & Low, 2006a; Nacey, 2013; Pütz, Niemeier, & Dirven, 2001a, 2001b; Robinson & Ellis, 2008; Tyler, 2012), not to mention individual journal articles and book chapters. The key CL concepts that are of particular relevance to L2 learning and teaching include construal, categorization, encyclopedic knowledge, metaphor, metonymy, embodiment, motivation, and the usage-based nature of language, which are related

to one another in various ways. These concepts have either inspired possible new approaches of language instruction or provided further support for existing teaching methodologies, such as “Focus on Form” (e.g., Doughty & Williams, 1998; Long, 1991) and task-based teaching (e.g., Long & Norris, 2000; Van den Branden, 2006), among others (Littlemore, 2009; Tyler, 2012). With considerable pedagogical potential for SLA, CL does not guarantee an effortless path to L2 learning, however. CL recognizes that L2 acquisition concurrently requires constant revision of L1 conceptual structures because transfer of L1 cognition can facilitate but also interfere with L2 development. For that reason, implicit learning is not sufficient for successful L2 acquisition; explicit teaching is needed to facilitate the mapping process between form and meaning in the target language. What CL can offer L2 instructors and researchers is a more accurate and comprehensive understanding of the nature and organization of language, with strong explanatory power for potential linguistic challenges faced by L2 learners.

### **Core issues and key findings**

The core issues and key findings in the L2 Chinese research inspired by CL revolve around the following interrelated concepts: motivation, categorization, construal, figurative language (metaphor and metonymy), and construction. This section surveys representative empirical studies that illustrate how these CL theoretical constructs can inform Chinese SLA.

#### *Motivation*

According to CL, most aspects of language are not arbitrary, but motivated, namely, there are reasons why we say certain things the way we do. Here we discuss one specific aspect of linguistic motivations: iconicity, as related to Chinese word order, a major research topic in cognitive-functional linguistics. Iconicity, or the conceived similarity between a linguistic form and what it represents, can manifest itself in such dimensions as quantity, distance, and sequential order (Dirven & Verspoor, 2004). Tai (1985) recognizes iconicity as one of the main governing principles of Chinese word order, which is largely motivated by the Principle of Temporal Sequence (PTS): “the relative word order between two syntactic units is determined by the temporal order of the states which they represent in the conceptual world” (p. 50). In other words, the temporal order of events in the conceived world is by default mirrored in the order of clauses describing them in Chinese. For example, in the Chinese translation of the English sentence, ‘I will go abroad after I graduate,’ the *after*-clause has to precede the main clause to follow the sequential order of the events expressed. In her empirical study that aimed to develop a principle-based taxonomy of word order errors in L2 Chinese, Jiang (2009) further found that PTS indeed has the strongest explanatory power, accounting for more than three-fifths of the errors in word order made by L2 Chinese learners with L1 English. She thus advocates that the cognitive-functional approach, which underscores human conceptualization of the physical world as reflected in the grammatical structure of natural languages, is the most informative framework for understanding word order errors in L2 Chinese.

#### *Categorization*

One way to understand the world around us is to try to sort it into categories and our language use reflects this inclination. Categorization refers to our ability to identify entities, based on their perceived similarities and differences, as members of groups. For a given group (say, birds), some members (in this case, robins or sparrows) are judged as more representative or prototypical

examples of the category than others (e.g., penguins). Such prototype effects in categorization are also witnessed in the linguistic phenomenon of polysemy. CL holds that a polysemous word (or any other level of linguistic unit) constitutes a conceptual category of distinct but related senses, some of which are considered more prototypical or central, while others, more peripheral (Lakoff, 1987).

The close relationship between human categorization and language use is most evidently manifested in the grammatical system of classifiers. Earlier research has shown that the classifier-noun collocations in Chinese are not arbitrary, but rather semantically motivated by a universal inventory of cognitive-based principles such as animacy, shape (e.g., longness, flatness, and roundness), and size (Tai, 1994). Kuo (2015) further shows that such cognition principles can facilitate L2 learning of Chinese classifiers, regardless of the presentation format (paper or multimedia). However, Zhang and Jiang (2016) observed that in most textbooks for L2 Chinese learners, the uses of classifiers are explained in terms of a list of mechanical rules illustrated with some isolated examples. They pointed out that this traditional approach to teaching polysemous classifiers fails to capture the motivated nature of their meaning extensions from a central sense, a limitation that can be remedied by a CL-based approach. The researchers then conducted an experimental study, using the multi-functional classifier *dào* (道) as an example, to compare the efficacy of the two approaches to classifier instruction. The instructional video for the cognitive group started with the original meaning of *dào* ('way, road') and highlighted two main types of motivations underpinning the extended uses of *dào* as a classifier: shape (e.g., *yī-dào cǎihóng* 'one rainbow') and function (e.g., *yī-dào míyǔ* 'one riddle'). In contrast, the video for the traditional group presented three senses of the classifier based on its dictionary definition without directing the learners' attention to the relations among the senses. In both the immediate and delayed post-tests, the two groups performed equally well on the items taught in the videos, but the cognitive group outscored the traditional group for the new items. This finding indicates that the students receiving CL-based instructions became better at predicting whether a new noun can be used with the taught classifier.

As with classifiers, Chinese directional verbs are also highly polysemous. Liang (2014) examined different factors postulated to affect L2 acquisition of polysemous *shàng* 'to go up'-phrases (ranging from *shàng-lóu* 'to go upstairs' to *shàng-cài* 'to serve food' to *shàng-shù* 'to be on the market'). With a Chinese-to-English translation task, she found that the sequence of L2 Chinese learners' acquisition of the *shàng*-phrases under study did not correlate significantly with the objective frequencies of these phrases in L1 Chinese corpora, nor with Chinese native speakers' ratings on the concreteness, imageability or literalness of the same phrases. Rather, there was a strong correlation between the L2 acquisition sequence of the target *shàng*-phrases and their degree of prototypicality. In this study, the prototypicality levels of *shàng*-phrases were empirically determined from two sources: an L1 Chinese production task and the participating native speakers' perceptions of teaching sequence. That is, the more frequently a given *shàng*-phrase occurred in the elicited sentences by the L1 Chinese speakers, and the higher it was placed in the L1 ranking of teaching sequence, the more prototypical the phrase was considered to be. Liang (2014) thus concluded that prototypicality is a powerful predictor of L2 acquisition of polysemous phrases and that the findings of her study have implications for prototypicality-based L2 research and pedagogical practice.

### *Construal*

The CL notion of *construal* refers to the human ability to conceive or express the same situations in alternate ways. One key claim in CL is that the lexical and grammatical choices we make are



never neutral or entirely objective: they reflect certain ways of viewing the world. Different words (e.g., *across* vs. *through*) and grammatical patterns (e.g., active vs. passive forms) give rise to distinct ‘ways of seeing’ or construals. There also exist cross-linguistic differences in conventional construal patterns (in particular with regard to events), which may be difficult for L2 learners to perceive and thus are a good candidate for explicit teaching (Littlemore, 2009).

Jing-Schmidt (2010) illuminates how Chinese differs from English and German in the construal of universal events like carrying and lying (down). The language/culture-specific conceptualizations encoded in the lexical information of verbs (and verb phrases) for expressing such basic events can be explicated in terms of distinct configurations between FIGURE, the most salient part of a scene or event, and GROUND, the rest of the scene or event. For example, the two Chinese equivalents to the verb *lie (down)* in English, *pā* and *tǎng*, profile different body parts of the FIGURE (namely, whether the front or the back) in contact with the supporting surface (viz., GROUND). Regarding the expression of weight-sustaining events, the body parts (viz., GROUND) used to sustain the weight of an object (viz., FIGURE) are relevant in Chinese but not in English or German. While sharing the recurring mental pattern (or image schema) of FIGURE being supported by GROUND, the four Chinese carrying verbs, *dīng*, *káng*, *bēi*, and *bào*, differ in the body parts or bodily areas specified as the implicit GROUND (in these cases, head, shoulder, back, and arms, respectively). The Chinese-specific preferences in the construal of such events need to be explained in the presentation of the associated verbs in pedagogical grammars.

Motion events are also universal in human experience. However, languages differ in their lexicalization patterns and syntactic packaging of the semantic components of motion events such as path and manner of motion. Talmy’s (2000) typology of motion events, also the CL framework that has been most productively applied to Chinese SLA research to date, distinguishes between verb-framed languages (V-languages) and satellite-framed languages (S-languages), depending on whether path is expressed in the main verb or in the satellite (e.g., a particle or a preposition). While Talmy (2000) considers Chinese an S-language like English, Slobin (2004) argues that Chinese, as a serial-verb language, has a set of spatial morphemes that can serve as full path verbs as well as path satellites and therefore should belong to a third type, equipollently framed languages (see also Chen & Guo, 2009, 2010 for empirical support for this proposal). In SLA, Talmy’s typological framework of motion events has been commonly adopted in conjunction with Slobin’s (1996) “thinking-for-speaking” (TFS) hypothesis. According to the hypothesis, the language we speak affects our thinking only when we are actively using the language (e.g., while we are speaking). When acquiring their L1, children gradually become attuned to particular details of motion events, developing language-specific patterns of TFS. For adults, learning an L2 also entails learning another way of TFS, that is, learning how the semantic components of a motion event are mapped onto L2 surface forms and learning which aspects of a motion event must be attended to in the input and expressed in the target language (Cadierno, 2004).

Wu (2011, 2014, 2016) conducted a series of pioneering experimental studies that shed light on the complex nature of L2 Chinese learners’ development of path expressions, which require the use of directional complements (DCs), and of target-like TFS. The participants in her studies included both heritage language learners (HLLs) and foreign language learners (FLLs), all with English as their L1 but at different levels of L2 proficiency. Wu (2011) first identified two linguistic sources of difficulty that the learners had with the surface forms of DCs. The first one is the syntactic complexity of the target DC patterns, which is reflected in two dimensions: (a) simple vs. complex DC (e.g., *jìn* ‘into’ vs. *jìn + lái* ‘hither’) and (b) the number of constituents involved and associated word order rules. Specifically, the latter dimension has to do with whether a noun phrase (NP) (denoting object or place) is present. Second, the typological features of Chinese as a serial-verb language also pose great challenges. Since English encodes

path by means of satellites only, the dual functions of Chinese DCs as path satellites and as independent verbs are understandably difficult for learners with L1 English. More importantly, the researcher rightfully points out that, due to cross-linguistic divergences in spatial semantic concepts, English-speaking learners need to develop the ability to adjust to Chinese-specific ways of spatial categorization, including the distinction between *shàng* and *qǐ* for upward movements as well as the encoding of deictic perspectives with *lái* and *qù* (for more discussion on the language-specific properties of Chinese path representations, see Chu, 2009). Based on empirical observation of the L2 patterns elicited by written production tasks, Wu (2011) proposed the following developmental order of mastery of L2 Chinese DCs: (1) simple DCs, (2) complex DCs, (3) simple DCs with object NPs, (4) simple DCs with place NPs, (5) complex DCs with object NPs, (6) complex DCs with place NPs.

Apart from linguistic aspects, Wu (2011, 2014, 2016) also examined the influence of learner-related factors, such as L2 proficiency level and exposure to the target language, on L2 acquisition of Chinese motion event expressions. The learners' ability to use DCs in a target-like manner was found to be positively related to their overall level of Chinese proficiency. Also, all three cross-sectional studies showed that HLLs consistently outperformed FLLs across proficiency levels in the use of DCs or motion constructions. In particular, Wu (2016) found that while more proficient learners, regardless of their language learning backgrounds, were more able to produce task-relevant motion expressions, only advanced HLLs demonstrated target-like TFS in the elicited oral narratives. Since the HLLs and FLLs shared the same L1, such a finding indicates that the role of the dominant language's TFS may not be as influential as previous studies have suggested. Rather, the greater amount and longer length of exposure to Chinese that the higher-level HLLs had appears to play a more determinative role. Wu (2016) thus reached the conclusion that a higher degree of language socialization may facilitate the development of TFS in the target language (see Chapter 8, Lu & Ke, this volume).

Along a different vein of inquiry, Hsiao and Chen (2016a, 2016b) were interested in the conception of Chinese motion event constructions by L2 learners with Japanese, a V-language, as their L1. The participants of these studies, including 15 learners at the intermediate-high level and 22 Chinese native speakers, were presented 50 sentences, each describing an accompanying picture, in an online survey. The participants' task was to rate the degree of naturalness, on a scale of one to five, of the prompt sentences, which were designed, based on a contrastive analysis between Chinese and Japanese motion verb constructions, to include both grammatical and ungrammatical patterns. The results showed that the L2 learners' ratings significantly differed from those of the L1 speakers for almost all types of Chinese motion event expressions tested, grammatical or ungrammatical. In particular, grammatical sentences containing verbs with 'default' manner received significantly lower points from the learners, a finding which, as the researchers argue, may reflect the influence of their L1. In V-languages like Japanese, the expected, default manner of performing a motion (e.g., walking for humans) tends not to be overtly expressed. Additionally, the learners were found to have more difficulties recognizing the grammaticality of Chinese complex motion event constructions with deictic expressions (*lái/qù*), and such a result can be attributed to the more flexible word order in their Japanese counterparts with regard to where the locative object can occur.

With a different focus on learners with diverse L1 backgrounds, Hao and Wang (2015) investigated the extent of cross-linguistic transfer in L2 acquisition of Chinese motion verb constructions. The participating students' L1s included both V-languages (mostly Spanish and French) and S-languages (mostly English and Russian). The 60 participants were divided, according to their HSK scores, into two proficiency groups: beginning and intermediate/advanced levels. The students were asked to produce oral narratives based on a wordless picture

book. The learners' L1s were found to have significant effects on the frequency of the 'manner + path' type of motion verb constructions used as well as the amount of ground details expressed, but not on the usage frequencies of manner-verbs and path-verbs. Specifically, learners with L1 S-languages produced significantly higher proportions of 'manner + path' patterns (e.g., *pá-qílái* 'climb-up') and more clauses embedded with ground information. This study also observed that the overall use of motion event patterns by learners with L1 S-languages, as their proficiency level advanced, were more aligned with those of Chinese native speakers than those by learners with L1 V-languages. The researchers explained that, perhaps due to the closer typological proximity of Chinese to S-languages, learners with L1 S-languages can benefit more from positive transfer from their native languages. Hao and Wang (2015) thus concluded that cross-linguistic transfer does occur in some aspects of learning to express motion events in L2 Chinese.

### *Figurative language*

Among different types of figurative language, metaphor and metonymy have received the most attention in the CL literature. The most influential CL framework in this area is generally known as Conceptual Metaphor Theory (CMT) (Lakoff & Johnson, 1980/2003, 1999). CMT argues that metaphors and metonymies are primarily conceptual in nature and that they are essential modes of thinking (or 'figures of thought') through which human abstraction is achieved and human cognition shaped. As such, metaphors and metonymies are pervasive not only in human everyday thought and language, but also in many other areas of human experience as well as social and cultural lives. However, figurative expressions (e.g., emotion metaphors) can be language/culture-specific and thus present various degrees of difficulty for L2 learners (Chen & Lai, 2014). In SLA, the extent to which L2 learners can comprehend and produce metaphor in the target language, termed as "metaphoric competence" (Littlemore & Low, 2006a, 2006b), is regarded as important in contributing to their overall communicative language ability.

Figurative language is particularly relevant to L2 vocabulary acquisition and instruction. In their pedagogical report, Liu and Wang (2015) showed how the teaching of metaphorical uses of Chinese color words can be incorporated into regular classroom instruction. Spanning across four days, 10 to 20 minutes per day, the instructional intervention was targeted at beginning-level L2 Chinese learners. The instructors used lectures, videos, pictures and class activities to implicitly and explicitly inform the students of the metaphorical connotations of selected color concepts. Pre- and post-surveys eliciting the students' interpretations of five color-related figurative expressions were administered to gauge the learners' knowledge of Chinese color metaphors before and after the instructional intervention. The prompt idiomatic expressions were *hóng-rén* 'red-person,' *hēi-huà* 'black-word,' *bái-yǎn* 'white-eye,' *huángsè-xiàohuà* 'yellow-joke,' and *lǜ-màozi* 'green-hat.' Based on the survey results as well as in-class assessment in the form of teacher-student interactions and group activities, Liu and Wang (2015) concluded that, with proper instructional design, learners' awareness of color metaphors in Chinese culture can be effectively enhanced.

Based on CMT, Jin (2011) investigated L2 acquisition of spatial metaphors in Chinese and English. Specifically, using written corpus data, she compared how L1 speakers and L2 learners use vertical spatial metaphors. According to her study, the most important factor that affects learners' development of metaphoric competence is the frequency of a given metaphor in the target language, regardless of whether this metaphor is shared between L1 and L2. Moreover, learners at a lower proficiency level were found to be more subject to the influence of their L1s, and their patterns of metaphor use, compared to higher-level learners', diverged more from those of native speakers. One area of divergence involves the grammatical functions of the words used to express spatial concepts in metaphorical expressions. In the case of *shàng* '(go) up' and *xià* '(go) down' in

Chinese, L2 learners tend to use them as main verbs in spatial metaphors rather than as function words as native speakers often do. Content words like verbs appear to be more salient than function words and therefore draw more attention from L2 learners, especially less proficient learners.

Lai (2012) implemented an instructional program aimed at teaching two aspects of the Chinese temporal system to L2 learners. In particular, the instructional content of the Chinese time expressions that contain spatial-temporal particles, including *shàng* ‘up,’ *xià* ‘down,’ *qián* ‘front’ and *hòu* ‘back’, had CL as its explicit theoretical foundation. The instructional goal of this study was to raise learners’ awareness of the space-time metaphorical mapping underlying the vertical (e.g., *shàng-ge-yuè* ‘last month’ vs. *xià-ge-yuè* ‘next month’) and horizontal (e.g., *qián-tiān* ‘the day before yesterday’ vs. *hòu-tiān* ‘the day after tomorrow’) time expressions.<sup>1</sup> Such systematic CL-informed presentation of concepts contrasts with the traditional, piecemeal presentation on the time expressions by most textbooks. The participants of this study, 29 novice learners with either English or Korean as their L1, were enrolled in two different sections of the same first-semester Chinese course at a U.S. university. Over the eight-week program, both sections followed the standard course syllabus, except that one section, the experimental group, received CL-informed instruction on the time expressions, whereas the other section, the control group, received traditional instruction given by the textbook used for the course. In the post-test using English-to-Chinese translation tasks, the experimental group significantly outperformed the control group. In addition, the CL-based instruction was found to be more helpful for learners with L1 English than for those with L1 Korean.

In her study on teaching culture through language, Hu (2015) explored the perceived efficacy of a CL-inspired, online, self-learning course, Chinese Radicals Incorporated Language Learning (CRILL), by adult L2 Chinese learners. The course introduced 16 basic radicals, which were organized not by their number of strokes, but in terms of three groups of concepts, namely, body parts, nature, and plants. The objective of this course was to enhance the learners’ consciousness of the cultural knowledge encoded in the radicals by explaining the metonymic and metaphorical motivations underlying the internal structures of characters and compound words. For example, when learning about the radical *zú* (足) in one of the units for body-part concepts, the students were made aware of how the formations of the characters denoting motions such as *pǎo* (跑 ‘to run’) and *tiào* (跳 ‘to jump’) are motivated by the metonymy, BODY PART FOR ACTION. The study administered a questionnaire survey to 29 pre-intermediate L2 Chinese learners for their perceptions of the pedagogical efficacy of CRILL. The survey results showed that, overall, the e-course was favorably received by the participating students, especially with respect to how the radicals and characters were organized and introduced. When factoring in the participants’ L1s, Hu (2015) revealed that American and European learners of Chinese found the cognitive approach more engaging and motivating than did Japanese learners. This finding suggests that the CL-inspired method of character instruction may not be equally well regarded by learners with different language backgrounds.

### *Construction*

In CL, our linguistic knowledge is treated as a structured inventory of constructions, or conventional units pairing form and meaning. The notion of *construction* is generalized to all levels

1 The time orientation metaphor in Chinese is somewhat controversial, with opposing views on its horizontal axis. Readers are referred to Ahrens and Huang (2002), Alverson (1994), and Yu (1998, 2012) for detailed discussions.

Table 2.1 Top two subtypes of the *ba*-construction in frequency ranking

	LOCATIVE	DIRECTIONAL
Form	V-locative complement	V-directional complement
Meaning	Change of absolute location	Change of orientation in space
Most frequent collocates	把 object 放-到...里/上 把 object 放-在...上/里	把 object 拿出来/起来/来 把 object 放下

of grammatical descriptions, including morphemes or words, idioms, partially lexically filled and fully general linguistic patterns (Goldberg, 2006). Constructions are organized in a network (Croft, 2007) and also operate within radial categories that have more concrete prototypical members in conjunction with more abstract peripheral members (Littlemore, 2009).

The constructionist view of language has mostly been applied to analyzing clause-level constructions in Chinese. In a pedagogy-oriented corpus-based study, Jing-Schmidt, Peng, and Chen (2015) adopted a usage-based constructionist approach and identified 17 subtypes of the *ba*-construction in colloquial Chinese. Table 2.1 presents the forms, meanings and the most frequent collocates of the top two subtypes of the *ba*-construction. Jing-Schmidt and her colleagues further pointed out that, in addition to their high frequency, both subtypes are more salient as well in that their spatial-change meanings are conceptually more significant and perceptually more prominent. The LOCATIVE and DIRECTIONAL subtypes can thus be viewed as the central members of the larger radial category of the *ba*-construction and deserve more pedagogical attention (also see Chapter 8, Lu & Ke, this volume).

In another strand of research related to pedagogy, Su and Lu (2010) argue that the component units of (clause-level) constructions in Chinese are chunks rather than individual words. Su (2010) further conducted an experimental study to test the efficacy of such a construction-chunk approach to the teaching of Chinese existential constructions (e.g., *Ménkǒu zhàn-zhe jǐge hái'izi*. 'There are several kids standing at the doorway.'). which pose considerable difficulty to L2 learners when taught with more traditional approaches. This category of constructions is traditionally explained by most pedagogical grammars in terms of a Subject-Predicate-Object (主-谓-宾) or Agent-Verb-Patient (施-动-受) pattern. In the CL-inspired construction-chunk approach, Chinese existential constructions are analyzed as consisting of three chunks: Location of Existence (存现处所) + Manner of Existence (存现方式) + Entity of Existence (存现物). Su (2010) separately applied the construction-chunk approach and the traditional approach to teaching two groups of students across proficiency levels. The results showed that the construction-chunk approach was more effective, making the learning of existential constructions easier and faster, and with better retention. The superiority of the construction-chunk approach over the traditional approach was also confirmed by a questionnaire survey administered after the post-test. It was claimed that the effectiveness of the construction-chunk approach to teaching Chinese sentence patterns lies in its capacity to activate cognitive commonality among students and to lead them to notice the linguistic specificity of the Chinese language.

## Research approaches

CL-informed L2 Chinese studies to date have adopted the methods of data collection and analysis in general SLA research. Specifically, there are three clusters of research approaches that characterize the vast majority of previous Chinese SLA research inspired by CL. This section

surveys representative studies to illustrate each cluster and highlights the crucial parts of their research designs.

### *Learner language analysis*

CL frameworks provide useful conceptual tools for analyzing learner language to understand how certain vocabulary or grammatical structures in Chinese are acquired. The L2 Chinese data in previous studies have been drawn from learner corpora or collected through experimental elicitation. The analysis of learner language samples usually involves some kind of comparison with adult L1 data as the baseline. To illustrate, adopting a corpus-based approach, Jin (2011) compared how L1 Chinese speakers and L2 Chinese learners use spatial metaphors that involve the particles *shàng* 'up' and *xià* 'down.' The L1 Chinese data came from the UCLA Corpus of Written Chinese (0.7 million words) and the L2 Chinese data were 118 compositions written by American students totaling 42,388 words, a subset of the four-million-word HSK Dynamic Composition Corpus (version 1.1). Based on the scores of their compositions, two groups of learners (higher proficiency vs. lower proficiency) were further distinguished. Such division allowed the researcher to investigate, for instance, whether learners' levels of L2 proficiency had to do with how much their uses of metaphors differed from native speakers' uses and were affected by their L1s.

The use of elicitation techniques for learner language samples, written or oral, in an experimental setting has been most commonly observed in the studies interested in how learners come to express motion events in L2 Chinese. For example, Wu (2011) designed two written tasks to elicit the participants' production of path expressions. The first one, a controlled composition task, used an incomplete passage written in Chinese based on a wordless picture book. The participants were required to fill in the blanks in the passage by describing the spatial movements depicted in the picture story with the designated verbs. The second task, a picture-cued written one, used sequential pictures illustrating different kinds of motion events and had 16 test items divided into two parts. Part one of the task asked the participants to describe the spatial movement of a subject in the pictures by incorporating the designated verbs and location or object nouns provided. To complete part two of the task, the students needed to make requests that involved spatial movements. Coding and scoring of the responses were based on the appropriateness of the type of directional complements produced and the correctness of the word order. In contrast, Wu (2016) and Hao and Wang (2015) used elicited oral narratives as the basis for investigating L2 learners' acquisition of Chinese motion verb constructions. Wu (2016) asked her participants to tell a story based on the 12 wordless, sequential pictures provided by the researcher. The L2 Chinese learners completed the task in the target language whereas the L1 Chinese and L1 English speakers did so in their native language. Similarly, the learners in Hao and Wang (2015) were required to produce an oral narrative based on the wordless picture book *Frog, Where are you?* by Mercer Mayer. Both studies performed frequency counts of different types of motion verb constructions used in L1 baseline data and L2 learner samples to uncover the degree to which L2 learners at different levels of Chinese proficiency can demonstrate target-like thinking-for-speaking patterns.

### *Effects-of-instruction experiment*

The superior efficacy of CL-informed instruction on the Chinese language, as compared to traditional teaching approaches, has been supported by some experimental evidence. For one example, in light of the inadequacies of traditional presentations of Chinese classifiers in L2

textbooks, Zhang and Jiang (2016) carried out an experiment to test the hypothesis that CL-based explanations would better facilitate the initial learning as well as long-term retention of classifier uses, further helping learners to extend the linguistic knowledge to new classifier-noun combinations. The participants of this study, 32 students with L1 English and at the higher-intermediate and advanced levels of L2 Chinese, were randomly assigned to either the cognitive treatment group or the traditional treatment group. Both groups watched a five-minute-long instructional video designed to teach the polysemous classifier *dào* (道). The two videos differed in the way the meanings of *dào* were presented, but both used the same set of nouns to illustrate the different uses of the classifier. With a pre-test, post-test, delayed post-test design, all three tests used fill-in-the-blank questions, in which the participants were required to supply a classifier for each of the nouns given by the researchers. In addition to the nouns already introduced in the videos, the two post-tests also included some new test items. Given the results that, overall, the cognitive group scored significantly higher than the traditional group in both post-tests, such design of test items enabled the researchers to pinpoint the areas where the students receiving CL-based instruction performed better (i.e., on the classifier-noun combinations that the learners had encountered before, on the new ones, or both).

For another example, to evaluate if the cognitive construction-chunk approach to teaching Chinese existential constructions is more effective than the traditional ‘subject-predicate-object’ or ‘agent-verb-patient’ approach, Su (2010) conducted a large-scale experimental study with a 3 x 2 between-group design. Depending on the length of classroom instruction received, the participants, 123 L2 Chinese learners studying abroad in China, were divided into three proficiency-level groups: lower-intermediate (one year), intermediate (one and a half years), and advanced (more than three years). With random assignment of the participating students into either the cognitive treatment group or the traditional treatment group, both groups received teacher-fronted instruction. The effects-of-instruction study also incorporated a pre-test, post-test, delayed post-test design. In the post-test and the delayed post-test administered six weeks later, the participants were asked to combine the words provided plus the aspect marker *zhe* or *le* to form existential constructions. The cognitive group outscored the traditional group in both the post-test and delayed post-test, indicating that the construction-chunk approach can help learners learn and retain the usage of existential constructions better.

### *Questionnaire survey*

Questionnaire surveys have been conducted to obtain a better sense of how CL-inspired instruction is received by L2 Chinese learners. As part of the effects-of-instruction study, Su (2010) distributed a short questionnaire to her participants after presenting them with the forms and functions of Chinese existential constructions with the cognitive construction-chunk approach as well as the traditional approach. The survey had three forced-choice questions, which concerned the participants’ preference between the two approaches as well as their perceptions regarding which approach could help them learn and retain the target constructions better. For each of the three questions, a significantly higher number of participating students chose the cognitive approach. In addition to the closed-ended questions from which the quantitative results were derived, one open-ended question that prompted the students to explain their preference was also included. According to the qualitative responses, the CL-inspired method of explaining existential constructions was clearer and easier to understand.

Hu (2015) also designed a questionnaire survey with five open-ended questions to elicit L2 Chinese learners’ feedback on the efficacy of the online course, Chinese Radicals Incorporated Language Learning (CRILL), which highlights the metaphorical and metonymic basis underlying

the formations of Chinese characters and compounds. The questions were focused on two main issues: (1) the participants' prior knowledge of Chinese language and culture; (2) their opinions about what they like and dislike about the online course as well as their suggestions for its future improvement. The survey was distributed to 29 students speaking different native languages and studying abroad in Taiwan. The learners' responses were further categorized and coded for quantitative analysis to provide an overall picture of the participants' perceptions of the usefulness and limitations of CRILL.

## Pedagogical implications

The theoretical views of language held by language teachers would affect how they design their pedagogical activities. As a model of language with a strong emphasis on linguistic motivations, CL can contribute to L2 teaching by offering cognitive-functional explanations for various form-form, form-meaning, meaning-meaning relationships in language (Boers & Lindstromberg, 2006). Through the lens of CL, many areas of Chinese characters, vocabulary, and grammar that are commonly assumed to be idiosyncratic and arbitrary turn out to be motivated (at least partially) and thus become more amenable to instruction. In character teaching, instructors should bring to learners' attention the semantic links among characters that share the same radicals, for instance, the metonymic role of the radical *zú* (足) in verbs like *pǎo* (跑) and *tiào* (跳) as well as nouns like *lù* (路) and *jì* (跡) (cf. Hu, 2015). When introducing the vocabulary (e.g., *qián-tú* 'front-road = the future') and time phrases embedded with spatial particles, instructors can implement activities that raise the learners' consciousness of the metaphorical orientation of time in Chinese along its horizontal and vertical axes. CL also remedies the lack of linguistic motivations behind many grammatical rules given in instructional materials. Take the Chinese converb construction 'Agent VP1-*zhe* VP2' (e.g., *Tā tǎng-zhe tīng yīnyuè*. 'He listened to music lying down.') as an illustration. Chief (2011) pointed out that the sequential arrangement of the two temporally overlapping events involved can be predicted by the relative duration of the events and whether they are conceived as stationary or moving. The clear and systematic CL-informed explanation can lead to more meaningful learning and less reliance on rote memorization on the part of the learner.

CL also offers powerful frameworks such as construal and categorization to identify and explain conceptual differences across languages as reflected in their vocabulary and grammar. One common source of difficulty for L2 learners lies in how languages differ in their construal patterns of scenes and events. Students should be made aware of the semantic range of the target words in Chinese as compared to their counterparts in the learners' native languages. To illustrate, when teaching such near-synonyms as *dīng*, *káng*, *bēi*, and *bào*, the relations between the body part(s) involved and the carried object encoded in these verbs need to be stressed, especially to the learners whose L1 only has a general verb like *carry* in English (cf. Jing-Schmidt, 2010). One of the benefits of applying CL to language teaching is that instructors are equipped with explanatory tools for the conceptual particularities behind the uses of such near-synonyms. The cross-linguistic differences in the expression and categorization of motion events also deserve some pedagogical attention. As a serial verb language, Chinese has its own conventionalized means of encoding paths. The syntactic complexity of Chinese directional complements and the spatial categorization involved (e.g., *shàng* vs. *qǐ*) have been found to pose difficulties for L2 Chinese learners. As suggested by Wu (2011), pedagogical tasks designed to foster the functional use of such spatial expressions in context are needed. In this case, teacher-prompted attention may be required to enhance the learners' ability to adjust to the Chinese-specific ways of spatial conceptualization and avoid negative L1 transfer. Given that L2 development may be hindered



by interlingual differences in conceptual structure (Ellis & Robinson, 2008), the pedagogical relevance and value of meaning-oriented contrastive analyses informed by CL insights are undeniable (cf. Lu, 2015).

In addition, from a CL perspective, L2 learners acquire the knowledge of the target language through exposure to input. One corollary of such a usage-based view is that both the quality and the quantity of input matter in instructed contexts (Tyler, 2012). When teaching a word or a grammatical pattern with multiple meanings or functions, instructors should strive for a stratified selection of exemplars based on their frequency and prototypicality in their explicit instruction. For example, in teaching the complex multi-functional *ba*-construction, Jing-Schmidt, Peng, and Chen (2015) suggest that pedagogical priority should be given to the most frequent and salient subtypes (namely, the locative and directional subtypes). Similarly, the more frequent collocates for each constructional subtype gleaned from corpus data can also serve as reference for selecting prototypical exemplars in the grammar instruction. Jing-Schmidt (2015) thus argues that insights from such usage-based constructionist theoretical orientation can be translated to highly consistent pedagogical principles and should be incorporated into L2 Chinese teacher education. Moreover, CL-inspired proposals for alternative methods of presenting certain aspects of Chinese grammar can also help to provide more meaningful input to learners. In the case of teaching Chinese existential constructions with the construction-chunk approach (Su & Lu, 2010; Su, 2010), the terms like ‘Location of Existence’ (存现处所), ‘Manner of Existence’ (存现方式), and ‘Entity of Existence’ (存现物) are more intuitive and less abstract than the traditional ‘subject’ (主语), ‘predicate’ (谓语), and ‘object’ (宾语). Reflecting the meaning of the construction much more closely, the proposed terms are more likely to be retained by learners. In short, applying CL to L2 Chinese teaching is expected to deliver numerous teacher and learner benefits, some of which remain to be explored.

## Future research directions

The field of CL-inspired L2 Chinese research is no doubt still in its infancy. The empirical findings reviewed herein are mostly preliminary or even tentative. To be able to advance the field, first of all, we need much more solid linguistic analyses of Chinese orthography, vocabulary, grammar, and discourse patterns, using appropriate CL frameworks. Accurate, comprehensive CL-informed descriptions of various aspects of Chinese, preferably supported by authentic language data (e.g., corpus data), provide the foundation for most, if not all, CL-inspired research on Chinese L2 acquisition or pedagogy.

In view of the current lack of a full-fledged CL-SLA model, researchers can also benefit from incorporating CL descriptive insights into well-established models of L2 acquisition and pedagogy (Achard, 2004); one viable candidate is sociocultural theory (SCT). As pointed out by Lantolf (2011), SCT and CL, both grounded in meaning rather than structure, are highly compatible and can be integrated into a unified approach to examining and promoting language development in the classroom setting: “SCT provides the psychological framework that organizes language development, while CL offers the linguistic framework, which provides the substance of what is to be learned” (p. 304). The fruitful synergy of CL and SCT can be witnessed in a number of empirical L2 studies, some of which are reported in Masuda, Arnett, and Labarca (2015).

Clearly, there is an acute need for more empirical research that tests the efficacy of CL-inspired Chinese language teaching. CL-based instruction of Chinese should be compared against more traditional instruction or instruction informed by alternative models of language. Most of the positive effects of CL-style explanations and activities reported so far are only short-term; more endeavors need to be devoted to the investigation of the long-term effect of CL-based instruction

on the learning process. Future research on the application of CL to Chinese learning and teaching can also attend more to the influence of learner-related variables. As some earlier studies have shown (e.g., Hu, 2015; Lai, 2012), CL-inspired instruction or resources may not be equally facilitative of Chinese acquisition for students with different language backgrounds. Other variables such as learners' proficiency level and aptitude (Boers & Lindstromberg, 2006) should be incorporated in future research design to gain a more complete picture of the usefulness of CL-style pedagogy.

Finally, more efforts need to be put in translating the CL concepts and findings pertinent to Chinese language into accessible instructional materials. One major challenge of developing an effective CL-based pedagogical grammar is to find ways to rephrase the technical terms used in CL analysis for the benefit of Chinese learners and teachers while maintaining the precision of the theoretical concepts (Tyler, 2012). The present chapter hopes to advocate CL as a sophisticated model of language with great potential to guide the field of Chinese second language acquisition in new, productive directions of empirical research and pedagogical practice.

## Further reading

- Littlemore, J. (2009). *Applying cognitive linguistics to second language learning and teaching*. Basingstoke, UK: Palgrave Macmillan.
- Robinson, P., & Ellis, N. C. (Eds.). (2008). *Handbook of cognitive linguistics and second language acquisition*. New York: Routledge.
- Tyler, A. (2012). *Cognitive linguistics and second language learning: Theoretical basics and experimental evidence*. New York: Routledge.

## References

- Achard, M. (2004). Grammatical instruction in the natural approach: A cognitive grammar view. In M. Achard & S. Niemeier (Eds.), *Cognitive linguistics, second language acquisition, and foreign language teaching* (pp. 165–194). Berlin: Mouton de Gruyter.
- Achard, M., & Niemeier, S. (Eds.). (2004). *Cognitive linguistics, second language acquisition, and foreign language teaching*. Berlin: Mouton de Gruyter.
- Ahrens, K., & Huang, C.-R. (2002). Time passing is motion. *Language and Linguistics*, 3, 491–519.
- Alverson, H. (1994). *Semantics and experience: Universal metaphors of time in English, Mandarin, Hindi, and Sesotho*. Baltimore, MD: Johns Hopkins University Press.
- Bielak, J., & Pawlak, M. (2013). *Applying cognitive grammar in the foreign language classroom: Teaching English tense and aspect*. Heidelberg, Germany: Springer.
- Boers, F., & Lindstromberg, S. (2006). Cognitive linguistic applications in second or foreign language instruction: Rationale, proposals and evaluation. In G. Kristiansen, M. Archard, R. Dirven, & F. J. Ruiz de Mendoza (Eds.), *Cognitive linguistics: Current applications and future perspectives* (pp. 305–355). Berlin: Mouton de Gruyter.
- Boers, F., & Lindstromberg, S. (Eds.). (2008). *Cognitive linguistic approaches to teaching vocabulary and phraseology*. Berlin: Mouton de Gruyter.
- Boers, F., & Lindstromberg, S. (2009). *Optimizing a lexical approach to instructed second language acquisition*. Basingstoke, UK: Palgrave Macmillan.
- Boers, F., & Littlemore, J. (Eds.). (2003). *Cross-cultural differences in conceptual metaphor: Applied linguistics perspectives*. A special issue. *Metaphor and Symbol*, 18(4).
- Cadierno, T. (2004). Expressing motion events in a second language: A cognitive typological perspective. In M. Achard & S. Niemeier (Eds.), *Cognitive linguistics, second language acquisition, and foreign language teaching* (pp. 13–49). Berlin: Mouton de Gruyter.
- Chen, L., & Guo, J. (2009). Motion events in Chinese novels: Evidence for an equipollently-framed language. *Journal of Pragmatics*, 41, 1749–1766.
- Chen, L., & Guo, J. (2010). From language structures to language use: A case from Mandarin motion expression classification. *Chinese Language and Discourse*, 1(1), 31–65.

- Chen, Y.-C., & Lai, H.-L. (2014). The influence of cultural universality and specificity on EFL learners' comprehension of metaphor and metonymy. *International Journal of Applied Linguistics*, 24(3), 312–336.
- Chief, L. (2011). Applying cognitive semantics to pedagogical grammar: The case of the Chinese converb construction. *Journal of the Chinese Language Teachers Association*, 46(3), 1–19.
- Chu, C. (2009). Path of motion: Conceptual structure and representation in Chinese. In J. Xing (Ed.), *Studies of Chinese linguistics: Functional approaches* (pp. 65–84). Hong Kong: Hong Kong University Press.
- Croft, W. (2007). Construction grammar. In D. Geeraerts & H. Cuyckens (Eds.), *The Oxford handbook of cognitive linguistics* (pp. 461–508). Oxford, UK: Oxford University Press.
- De Knop, S., Boers, F., & De Rycker, A. (Eds.). (2010). *Fostering language teaching efficiency through cognitive linguistics*. Berlin: Mouton de Gruyter.
- Dirven, R., & Verspoor, M. (Eds.). (2004). *Cognitive exploration of language and linguistics* (second revised edition). Amsterdam: John Benjamins.
- Doughty, C., & Williams, J. (Eds.). (1998). *Focus on form in classroom second language acquisition*. Cambridge, UK: Cambridge University Press.
- Ellis, N. C., & Robinson, P. (2008). An introduction to cognitive linguistics, second language acquisition, and language instruction. In P. Robinson & N. C. Ellis (Eds.), *Handbook of cognitive linguistics and second language acquisition* (pp. 3–24). New York: Routledge.
- Evans, V., Bergen, B., & Zinken, J. (Eds.). (2007). *The cognitive linguistics reader*. London: Equinox.
- Evans, V., & Green, M. (2006). *Cognitive linguistics: An introduction*. Mahwah, NJ: Lawrence Erlbaum.
- Frank, R. M., Dirven, R., Ziemke, T., & Bernárdez, E. (Eds.). (2008). *Body, language and mind, volume 2: Sociocultural situatedness*. Berlin: Mouton de Gruyter.
- Geeraerts, D. (Ed.). (2006). *Cognitive linguistics: Basic readings*. Berlin: Mouton de Gruyter.
- Geeraerts, D., & Cuyckens, H. (Eds.). (2007). *The Oxford handbook of cognitive linguistics*. Oxford, UK: Oxford University Press.
- Goldberg, A. E. (2006). *Constructions at work: The nature of generalization in language*. Oxford, UK: Oxford University Press.
- Hao, M., & Wang, F. (2015). Laizi butong yuyan leixing de xuexizhe xushu Hanyu yundong shijian de shiyan yanjiu [An experimental study of motion event expressions by Chinese L2 learners from different language backgrounds]. *Shijie Hanyu Jiaoxue [Chinese Teaching in the World]*, 29(1), 83–94.
- Holme, R. (2004). *Mind, metaphor and language teaching*. Basingstoke, UK: Palgrave Macmillan.
- Holme, R. (2009). *Cognitive linguistics and language teaching*. Basingstoke, UK: Palgrave Macmillan.
- Hsiao, H., & Chen, P.-J. (2016a). Riji xuexizhe duiyu Hanyu quxiang shijian biaoshu zhi renzhi [Japanese learners' conceptions of Chinese directional motion event expressions]. *Huayuwen Jiaoxue Yanjiu [Journal of Chinese Language Teaching]*, 13(1), 35–68.
- Hsiao, H., & Chen, P.-J. (2016b). Butong yuyan leixing de qianzai yingxiang: Yi riji xuexizhe duiyu Hanyu fuhe quxiang shijian biaoshu zhi renzhi weili [Typological differences: A study on Japanese L2 learners' cognitive perception of Chinese motion event expressions]. *Huayuwen Jiaoxue Yanjiu [Journal of Chinese Language Teaching]*, 13(2), 35–68.
- Hu, Y.-H. (2015). Teaching culture through language: Exploring metaphor and metonymy in Chinese characters. *International Journal of Learning, Teaching and Educational Research*, 11(1), 161–179.
- Jiang, W. (2009). *Acquisition of word order in Chinese as a foreign language*. Berlin: Mouton de Gruyter.
- Jin, L. (2011). Second language acquisition of special metaphors in English and Chinese writings: Insights from native and learner language corpora. Ph.D. dissertation, The University of Arizona.
- Jing-Schmidt, Z. (2010). Seven events in three languages: Culture-specific conceptualizations and their implications for FLT. In S. De Knop, F. Boers, & A. De Rycker (Eds.), *Fostering language teaching efficiency through cognitive linguistics* (pp. 137–165). Berlin: Mouton de Gruyter.
- Jing-Schmidt, Z. (2015). The place of linguistics in CSL teaching and teacher education: Toward a usage-based constructionist theoretical orientation. *Journal of the Chinese Language Teachers Association*, 50(3), 1–22.
- Jing-Schmidt, Z., Peng, X., & Chen, J. (2015). From corpus analysis to grammar instruction: Toward a usage-based constructionist approach to constructional stratification. *Journal of the Chinese Language Teachers Association*, 50(2), 1–30.
- Kuo, J. Y. (2015). Cognition-based multimedia classifier learning. *Chinese as a Second Language Research*, 4(1), 23–45.
- Lai, W. (2012). Concept-based foreign language pedagogy: Teaching the Chinese temporal system. Ph.D. dissertation, The Pennsylvania State University, University Park.

- Lakoff, G. (1987). *Women, fire, and dangerous things: What categories reveal about the mind?* Chicago: University of Chicago Press.
- Lakoff, G. (1990). The invariance hypothesis: Is abstract reason based on image-schemas? *Cognitive Linguistics*, 1(1), 39–74.
- Lakoff, G., & Johnson, M. (1980/2003). *Metaphors we live by*. Chicago: University of Chicago Press.
- Lakoff, G., & Johnson, M. (1999). *Philosophy in the flesh: The embodied mind and its challenge to Western thought*. New York: Basic Books.
- Langacker, R. (1990). *Concept, image, symbol: The cognitive basis of grammar*. Berlin: Mouton de Gruyter.
- Lantolf, J. P. (2011). Integrating sociocultural theory and cognitive linguistics in the second language classroom. In E. Hinkel (Ed.), *Handbook of research in second language teaching and learning (Volume II)* (pp. 303–318). New York: Routledge.
- Liang, H. (2014). Factors accounting for acquisition of polysemous *shàng* ‘to go up’-phrases in Chinese as a second language (CSL). *Chinese as a Second Language Research*, 3(2), 201–225.
- Littlemore, J. (2009). *Applying cognitive linguistics to second language learning and teaching*. Basingstoke, UK: Palgrave Macmillan.
- Littlemore, J., & Low, G. (2006a). *Figurative thinking and foreign language learning*. Basingstoke, UK: Palgrave Macmillan.
- Littlemore, J., & Low, G. (2006b). Metaphoric competence, second language learning, and communicative language ability. *Applied Linguistics*, 27(2), 268–294.
- Liu, G., & Wang, H. (2015). A concept-based instructional design: Introducing Chinese color terms and their metaphorical meanings at the elementary level. *Studies in Chinese Learning and Teaching*, 1(1), 40–59.
- Long, M. H. (1991). Focus on form: A design feature in language teaching methodology. In K. de Bot, R. B. Ginsberg, & C. Kramsch (Eds.), *Foreign language research in cross-cultural perspective* (pp. 39–52). Amsterdam: John Benjamins.
- Long, M. H., & Norris, J. (2000). Task-based teaching and assessment. In M. Byron (Ed.), *Encyclopedia of language teaching* (pp. 597–603). London: Routledge.
- Lu, W.-L. (2015). A cognitive linguistic approach to teaching Chinese spatial particles: From contrastive constructional analysis to materials design. In K. Masuda, C. Arnett, & A. Labarca (Eds.), *Cognitive linguistics and sociocultural theory: Applications for second and foreign language teaching* (pp. 51–72). Berlin: Mouton de Gruyter.
- Masuda, K., Arnett, C., & Labarca, A. (Eds.). (2015). *Cognitive linguistics and sociocultural theory: Applications for second and foreign language teaching*. Berlin: Mouton de Gruyter.
- Nacey, S. (2013). *Metaphors in learner English*. Amsterdam: John Benjamins.
- Pütz, M., Niemeier, S., & Dirven, R. (Eds.). (2001a). *Applied cognitive linguistics I: Theory and language acquisition*. Berlin: Mouton de Gruyter.
- Pütz, M., Niemeier, S., & Dirven, R. (Eds.). (2001b). *Applied cognitive linguistics II: Language pedagogy*. Berlin: Mouton de Gruyter.
- Robinson, P., & Ellis, N. C. (Eds.). (2008). *Handbook of cognitive linguistics and second language acquisition*. New York: Routledge.
- Slobin, D. I. (1996). From “thought and language” to “thinking for speaking.” In J. Gumperz & S. Levinson (Eds.), *Rethinking linguistic relativity* (pp. 70–96). Cambridge, UK: Cambridge University Press.
- Slobin, D. I. (2004). The many ways to search for a frog: Linguistic typology and the expression of motion events. In S. Strömquist & L. Verhoeven (Eds.), *Relating events in narrative: Typological and contextual perspectives* (pp. 219–257). Mahwah, NJ: Lawrence Erlbaum.
- Su, D. (2010). Shixi goushi–yukuai jiaoxuefa–Yi cunxianju jiaoxue shiyan weili [On the construction-chunk approach to second language pedagogy: An experimental study on teaching existential constructions]. *Hanyu Xuexi [Chinese Language Learning]*, (2), 83–90.
- Su, D., & Lu, J. (2010). “Goushi–yukuai” jufa fenxifa he jiaoxuefa [Construction-chunk approach for syntactic analysis and second language pedagogy]. *Shijie Hanyu Jiaoxue [Chinese Teaching in the World]*, 24(4), 557–567.
- Tai, J. H.-Y. (1985). Temporal sequences and Chinese word order. In J. Haiman (Ed.), *Iconicity in syntax* (pp. 49–72). Amsterdam: John Benjamins.
- Tai, J. H.-Y. (1994). Chinese classifier systems and human categorization. In M. Y. Chen & O. J. Tzeng (Eds.), *In honor of William S.-Y. Wang: Interdisciplinary studies on language and language change* (pp. 479–494). Taipei: Pyramid.
- Talmy, L. (2000). *Toward a cognitive semantics: Vol. II. Typology and process in concept structuring*. Cambridge, MA: MIT Press.

- Tomasello, M. (2003). *Constructing a language: A usage-based theory of language acquisition*. Cambridge, MA: Harvard University Press.
- Tyler, A. (2012). *Cognitive linguistics and second language learning: Theoretical basics and experimental evidence*. New York: Routledge.
- Van den Branden, K. (2006). *Task-based language education: From theory to practice*. Cambridge, UK: Cambridge University Press.
- Wu, S.-L. (2011). Learning to express motion events in an L2: The case of Chinese directional complements. *Language Learning*, 6(2), 414–454.
- Wu, S.-L. (2014). Influence of L1 thinking for speaking on use of an L2: The case of path expressions by English-speaking learners of Chinese. In Z.-H. Han (Ed.), *Studies in second language acquisition of Chinese* (pp. 1–29). Bristol, UK: Multilingual Matters.
- Wu, S.-L. (2016). Development of thinking for speaking: What role does language socialization play? *The Modern Language Journal*, 100(2), 446–465.
- Yu, N. (1998). *The contemporary theory of metaphor: A perspective from Chinese*. Amsterdam: John Benjamins.
- Yu, N. (2012). The metaphorical orientation of time in Chinese. *Journal of Pragmatics*, 44, 1335–1354.
- Yu, N. (2015). Embodiment, culture, and language. In F. Sharifian (Ed.), *The Routledge handbook of language and culture* (pp. 227–239). New York: Routledge.
- Zhang, L., & Jiang, S. (2016). A cognitive linguistics approach to Chinese classifier teaching: An experimental study. *Journal of Language Teaching and Research*, 7(3), 467–475.
- Ziemke, T., Zlatev, J., & Frank, R. M. (Eds.). (2007). *Body, language and mind, volume 1: Embodiment*. Berlin: Mouton de Gruyter.