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Working out multiword verbs within an Applied Cognitive Construction Grammar framework

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Abstract: This article presents a constructionist approach to the teaching of multiword verbs. To that end, I outline a pedagogical model, *Applied Cognitive Construction Grammar* (ACCxG), which is deemed to provide insight into a novel classification of multiword verbs as *constructions* (form-function pairings). The ACCxG framework integrates four cognitively-driven rationales, namely *Focus on Form, Task-based Language Teaching, Data-driven Learning, and Paper-based Data-Driven Learning*. It is argued that the syntax-semantics of multiword verbs can be better understood through recourse to their relation with syntactic constructions (Argument Structure Constructions). Endorsing this rationale entails, among other things, the recognition that the same general cognitive mechanisms intervening in the construction of our experience of the world are at play during the construction of linguistic knowledge.

Keywords: Argument Structure Constructions, *Applied Cognitive Construction Grammar*, Constructions, Data-driven Learning, Focus on Form, multiword verbs, Task-based Language Teaching, Paper-based Data-Driven Learning.

Resumen: El presente artículo introduce un enfoque construccionista para la enseñanza de los verbos frasales. Para tal fin se describe un nuevo modelo pedagógico denominado *Applied Cognitive Construction Grammar* (ACCxG) el cual sirve como base para la implementación de una conceptualización de los verbos frasales como *construcciones* (unidades de forma y función). La ACCxG reúne cuatro enfoques cognitivos para la enseñanza de una segunda lengua: *Focus on Form, Task-based Language Teaching, Data-driven Learning,* y *Paper-based Data-Driven Learning*. Dicho marco teórico parte del supuesto de que la morfología y sintaxis de los verbos frasales puede comprenderse mejor a través de su asociación con construcciones sintácticas llamadas *Construcciones Argumentales Estructurales* (CAEs). La adopción de este constructo presupone la intervención de habilida-

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des cognitivas generales en la construcción del conocimiento lingüístico, el cual, se sugiere, ocurre de manera análoga a la construcción de nuestra experiencia con el mundo físico.

Palabras clave: Construcciones Argumentales Estructurales, *Gramática Construccional Cognitiva Aplicada*, Construcciones, Focus on Form, Task-based Language Teaching, Data-driven Learning, Paper-based Data-Driven Learning, verbos frasales.

Zusammenfassung: Der vorliegende Aufsatz widmet sich der Untersuchung von Partikelverben im Rahmen der Angewandten kognitiven Konstruktionsgrammatik (AKK). Folglich werden Partikelverben als Form-Funktion Beziehungen (Konstruktionen) analysiert. Diese konstruktionsgrammatische Auffassung stützt sich auf einen Gebrauchsbasierten Konstruktionbegriff, der Partikelverben mit spezifischen Argumentstrukturen assoziert. Darüber hinaus lässt sich das Verhältnis von Partikelverbkonstruktionen zu syntaktischen Konstruktionen (*Argumentstrukturkonstruktionen*) mit Hilfe von vier kognitiv-basierten pädagogischen Modellen fassen: *Focus on Form, Task-based Language Teaching, Data-driven Learning*, und *Paper-based Data-Driven Learning*. Die grundlegende Annahme der AKK zur Gebrauchsbasiertheit der Sprachen dient vor allem dazu, die spezifischen Lernstufen der Sprachkonstruktion im Klassenzimmer fassen zu können, wobei grammatische Strukturen auf den gleichen Lernmechanismen der Generalisierung und Strukturbildung (die zur Wahrnehmung der Welt gebraucht werden) aufbauen.

Schlüsselwörter: Angewandte Kognitive Konstruktionsgrammatik, Argumentstrukturkonstruktionen, Data-driven Learning, Focus on Form, Konstruktionen, Paper-based Data-Driven Learning, Partikelverben, Task-based Language Teaching.

1 Introduction

This article seeks to connect some of the key tenets of *Construction Grammar* (CxG) with English Language Teaching (ELT). Whereas CxG is conceptually rooted in robust empirical evidence on the way language is constructed by speakers, the pedagogical implications of these psycholinguistic studies are yet to be tested experimentally in the context of Applied Linguistics. Moreover, venturing that far presupposes the formulation of a novel theoretical framework that places linguistics and cognitive science at the root of L2 teaching and learning. A key issue in contemporary language learning theory relates to the degree general cognitive mechanisms, such as “perception, attention, learning,

categorization, schematization, and memory" (Ellis & Cadierno 2009: 111) are summoned in the recognition of linguistic patterns (processing), for example, the mapping of sound (form) and meaning (function). The constructionist family of approaches to language learning (Goldberg 1995, 2006; Culicover and Jackendoff 2005; Tomasello 2003) is thus at odds with *special linguistic nativism* (e.g. Chomsky 1965) whereby linguistic knowledge stems from an innate language capacity in the form of "rules that are specific to human language and not the result of our general conceptual/perceptual apparatus together with experience in the world" (Goldberg 2006: 188). In this sense, CxG offers a different set of responses to the question of how language can be actually learned. In particular, at the heart of *Cognitive Construction Grammar* (CCxG; Goldberg 1995, 2006) is the claim that language is constructed on the basis of the learning of its constructions rather than on the activation of a linguistic competence through the acquisition of items and rules. In practice, this means that the learning of linguistic constructions (pairings of form and function) is usage-based through an exposure to specific constructions which become entrenched in a community of speakers (Ellis and Ferreira-Junior 2009: 370). Inevitably, when ascertaining the role of linguistic constructions as the building blocks of usage-based language learning, it is necessary to note that these pairings of form and function are learned in exactly the same way as other content domains related to our embodied experience with the physical world, that is, by "positive input together with fairly cognitive abilities" (Goldberg 2006: 14). Crucially, the constructionist view of language learning is radically different from the traditional generative notion of performance as a computational combinatorics of rules based upon a "*core*" linguistic system. It follows that language is not conceived of as an isolated system separated from the action of speakers, but as a process of bottom-up symbolic construction. A striking feature of constructional learning is that it begins in a very conservative way on the basis of generalization (i.e. the use of a construction beyond the input) over concrete exemplars (prototypical language samples). This means that once a construction (a word, phrase, sentence, or syntactic pattern) is learned, it can be generalized beyond its immediate context to construct new utterances. In addition to its L1 theoretical depth, the constructional model of learning relates to issues in L2 contexts as well. In this theoretical article, I present a constructionist approach to multiword verbs (henceforth MWVs). In contrast to generative assessments, it is argued that MWVs can in fact be described as learnable (not simply acquirable) constructions in a Construction Grammar framework (e.g. Gilquin 2015). To that end, I endorse the branch of CxG termed *Cognitive Construction Grammar* (CCxG; Goldberg 1995, 2006) which provides the theoretical substrate to the applied version of this construct, namely *Applied Cognitive Construction Grammar* (ACCxG). ACCxG inte-

grates cognitively-informed instructional approaches. These frameworks are deemed to offer a psychologically plausible model of pedagogical grammar, which in addition, provides avenues for further empirical confirmation.

The paper is organized as follows. Section 2 outlines the main concepts underlying ACCxG, such as the notions of *construction* and *Argument Structure Construction*. In Section 3 the constructional classification of MWVs is introduced and contrasted with traditional classifications, such as the lexical-syntactic and the semantic. Section 4 presents the theoretical foundations of constructional learning. It is argued that an acquaintance with some of the key determinants of L1 learning is crucial for the comprehension of the process of L2 reconstruction in the classroom. In this regard the instructional rationales behind ACCxG. This section also describes the structure of PbDDL tasks for the teaching of MWVs from a constructionist perspective.

2 Defining Constructions

Constructions are pairings of form and function (meaning). They relate a form (e.g. a sound) to a semantic content (i.e. a meaning that is entrenched in a community of speakers). Regardless of their form and complexity, constructions are learnable from the input (linguistic stimulus) through general cognitive mechanisms. In this sense, linguistic constructions are deemed to "capture our knowledge of language *in toto*" (Goldberg 2003: 223; emphasis in original). The whole inventory of constructions is organized within a network which contains both *general* (core) and *item-specific* (idiosyncratic) constructions with different levels of complexity and abstractedness. As is illustrated in Figure 1, the utterance "Tom stared at the old fashioned rotary-dial phone" contains at least six different constructions which need to be processed by speakers to make up meaning. As can be seen, constructions can be small (a suffix, e.g. *–ed*) or large (a noun phrase, e.g. "the old-fashioned rotary-dial phone"), concrete (the word "phone"), or abstract (the form Subject Verb Prepositional Phrase). For present purposes, a set of abstract syntactic constructions (Argument Structure Constructions) will be discussed in the next section.

Figure 1: Combination of constructions in an utterance: (1) Verb + prepositional object construction, (2) verb+fixed preposition construction (prepositional verb), (3) morpheme, (4) adjective+past participle as noun premodifier construction, (5) noun phrase construction, and (6) adjective+noun as noun premodifier construction.

2.1 Argument Structure Constructions

For CCxG syntactic patterns have meaning in themselves. Thus, in order to figure out novel verb senses in an utterance (in relation to other clausal elements) learners must first understand how individual verbs interface with abstract syntactic constructions. These constructions are called *Argument Structure Constructions* (ASCs), and are defined as abstract constructions that may or may not match a verb's semantics (Table 1 offers a summary of ASCs in English). In other words, individual verb constructions (conveying their particular semantics) interact with the semantics of syntactic constructions. For example, in the sentence "Tim put down the radio", the verb "*put down*" means "to cause something to be placed in a lower position by the intended action of someone". In this case, the meaning of the verb matches the meaning of the ASC it occurs in, namely the "caused-motion construction". This ASC consists of several participants: a *Causer* (the Subject, i.e. "Tim"), the *Undergoer* (the transferred Object, i.e. "the radio"), and the intended movement (produced by putting down the radio). This relation can be rendered as a construction (a form-meaning pair):

(1)

	Tim	**put down**	**the radio**
Form	Subj	Verb	Obj
Meaning	X	*Causes to move*	Y
	(Causer)		*(Undergoer)*

As can be seen, although the verb is a good predictor of clausal meaning in itself, it is the ASC which contributes the most relevant semantics of the sentence. Moreover, the lexical-semantic content packed in the utterance links the clause with a meaning "that arises from embodied interactions in the world" (Tyler 2012: 21).

Therefore, a cognitive scenario is invoked where an *Actor* interacts with an object (translated in the form of a content domain of a word referring to an action or event) in terms of physical contact to produce an effect. The visualization of *cognitive scenarios* ("scenes" in Goldberg's terminology) is a powerful source of constructional meaning, accessible to us thanks to our experience with the world, that is, our experience with motion (e.g. verbs reflecting vertical or horizontal motion schemas), or containment.

Table 1: Summary of English ASCs.

ASCs in English			
ASC	**Form**	**Meaning**	**Examples**
Ditransitive	(Subj) V Obj1 Obj2	X causes Y to receive Z	I (Causer) ***picked*** him (Recipient) ***up*** a fresh coffee (Undergoer)
Caused-motion	(Subj) V Obj $\text{Oblique}_{\text{PATH}}$	X causes Y to move from/to Z	She (Causer) ***got*** him (Undergoer) ***out of*** the deal ($\text{Oblique}_{\text{PATH}}$).
Intransitive motion	(Subj) V $\text{Oblique}_{\text{PATH}}$	X moves to Z	She (Actor) ***plopped down on*** the sofa ($\text{Oblique}_{\text{PATH}}$)
Removal	(Subj) V Obj $\text{Oblique}_{\text{SOURCE}}$	X causes Y to move from Z	"She (Causer) ***swiped*** a flute of punch (Undergoer) ***off*** a waiter's tray ($\text{Oblique}_{\text{PATH}}$)" (Sarah Jio, *Blackberry Winter*, 2012)
Transitive	(Subj) V Obj	X acts on Y; X experiences Z)	"He (Actor) ***started up*** the car (Undergoer)"
Resultative	(Subj) V Obj RP	X causes Y to become Z_{STATE}	"Jax (Causer) ***yanked*** the door (Undergoer) ***open*** (End State) and stepped out to the hallway" (Sylvia Day, *Aftershock*, 2013)
Way construction	(Subj) $V_{[\text{possible way}]}$ $\text{Oblique}_{\text{PATH}}$	X creates a path and moves Z path	"Back home, she (Actor) ***worked*** her way (possible way) ***up*** in Hong Kong's health department" (TIME Magazine, 2015)

The idea of positing independent syntactic constructions, capable of conveying meaning in themselves, stems from the fact that, for CCxG, meaning in simple clauses is not attributable to main verbs only. Clearly, the advantage of the constructional analysis over traditional verb-centered approaches is that the semantics of verbs can be predicted from the ASCs they occur in. This approach does away with much of the ambiguity inherent in the definition of what counts as a verb-particle collocation in relation to neighboring clause items such as prepositional phrases. This becomes evident when we analyze the semantics of

the nonsense verbs "*sif across*" and "*furth*" (cf. Torres-Martínez 2015). Whereas the verbs' individual meanings are elusive when we analyze them in isolation, when used in a sentence their meanings become apparent:

(2) a. The snake ***siffed*** across the floor
b. The teacher ***furthed*** the student the book

How is this possible? The reason is that the semantics of the syntactic construction (ASC) in which these verbs appear clues us into the semantics of the verbs by an "interaction of semantics, pragmatics and world knowledge along with syntax" (Goldberg 2009: 217) during language processing. Thus, "*siffed across*" in *2a* can be safely associated with the intransitive-motion ASC, and "*furthed*" with the ditransitive ASC. We can thus infer that *"sif across"* is a motion verb and *"furth"* a transfer verb. As we will see, the possibility of combining verbs with ASCs to create new utterances is advantageous, as it provides content for the comprehension of MWVs meaning. This is due, among other things, to the nature of L2 learning, constrained by the limited amount of input available in L2 settings, and thereby requiring the explicit teaching of ASCs is required to gain access to constructional meaning.

3 Defining MWVs as constructions

One of the most resilient grammatical dead-ends in English grammar is the definition of the proper strategy to present MWVs to learners. Linguistically, this type of constructions has been the subject of a number of characterizations most of them dichotomous, for example, that MWVs are words or phrases, abstract or literal, transparent or opaque, etc. In addition, because many MWVs are register-specific or highly conventionalized in a community of speakers, non-native users tend to avoid them in favor of one-word verbs. Given that most MWVs are composed of a general purpose verb (e.g. *put, get, come, go*) + a particle (a spatial adverb, a preposition or both), the tacit agreement has been that it is the particle which carries the semantic weight of the verb-particle combination. However, before exploring a constructional MWV taxonomy, it is first necessary to explore two verb-centered classifications informing L2 instruction, namely the lexical-syntactic and the semantic.

3.1 MWV typologies

3.1.1 Lexical-syntactic

This classification of MWVs can be traced to the canonical work of Quirk, Greenbaum, Leech, and Svartvik (1985), *A Comprehensive Grammar of the English Language*. In their book, the authors define MWVs as (1) chunks of syntax made up of a verb proper + a particle (p. 1150), and (2) as lexical units whose meaning cannot be predicted from the individual meanings of their constituents (p. 1152) (see Table 2). This taxonomy includes four verb types, namely (1) *free combinations*, i.e. verb-particle collocations in which both the lexical verb and particle retain their individual meanings; (2) *prepositional verbs*, i.e. verbs that take fixed prepositions; (3) *phrasal verbs*, i.e. verbs that are semantically fused with their particle; and (4) *phrasal prepositional verbs*, i.e. verbs that take two particles with which they are semantically related (these verbs are restricted to informal usage). Although this taxonomy offers insight into the lexis of most MWVs, it may downplay the analysis of verbal meaning, as less salient features of the MWVs go unnoticed due to several factors: verbal morphology and inflection, particle type, idiomaticity, register, as well as syntactic constraints like particle shifting.

Table 2: Lexical-syntactic classification of MWVs.

Lexical-syntactic Classification of MWVs	
MWV	**Example**
Free combination (shifted)	"They ***took*** huge amount of free software ***off*** the Web" (Michael Lewis, *Flash Boys: A Wall Street Revolt*, 2015)
Free combination (adjacent)	He ***got down on*** his knees.
Phrasal verb (shifted)	"Later that same year, I ***dropped*** my son ***off*** at school on St. Patrick's Day" (Sheryl Sandberg, *Lean In, Women, Work, and the Will to Lead*, 2013)
Phrasal verb (adjacent)	"Think back to the driverless car that just ***mowed down*** a flock of schoolchildren" (Steven D. Levitt and Stephen J. Dubner, *Think Like A Freak,* 2015)
Prepositional verb (shifted)	He ***put*** his hand ***on*** his shoulder.
Prepositional verb (adjacent)	The car ***inched through*** the mob.
Phrasal prepositional verb (Shifted)	"Downey responds, 'Trust me, we've got plenty', and leads Duvall downstairs to an office to ***load*** him ***up with*** promotional hats, shirts and paperweights." (TIME Magazine, 2015)

Table 2: (continued)

Lexical-syntactic Classification of MWVs	
MWV	**Example**
Phrasal prepositional verb (Adjacent)	"She ***gave up on*** me watching it for the night, (…)" (People Magazine, 2015)

3.1.2 Semantic

The semantic classification takes into account the extent to which the meaning of the MWV constituents can be used to predict the overall meaning of the verb. This three-fold classification of MWVs (Celce-Murcia and Larsen-Freeman 1999; Quirk et al. 1985; Jackendoff 2010) characterizes verbs according to semantic degrees of compositionality (Celce-Murcia and Larsen-Freeman's labels are in parenthesis): *Non-idiomatic (literal), semi-idiomatic (aspectual)*, and *highly-idiomatic (idiomatic*). (See Table 3).

Table 3: Semantic Classification of MWVs

Semantic Classification of MWVs		
MWV	**Definition**	**Examples**
Non-idiomatic (literal)	Combine a lexical verb (usually a general purpose verb) with a particle (either a directional adverb or a preposition). The meaning of the compound can be predicted from the individual meaning of its constituents.	"They ***break down*** [destroy] the walls. They ***drag*** the invaders ***away***" [pull away] (Anthony Doerr, Scribner, *All the Light We Cannot See, 2014*)
Semi-idiomatic (aspectual)	Combine a lexical verb (usually a common verb) and a particle (a directional adverb, a preposition, or both) carrying aspectual meaning. The components of these constructions are semantically analyzable.	"He also ***dreams up*** [invent, fabricate] ways to re-establish his severed communications link with Earth" (TIME, October 5, 2015: 54, *The Martian* Celebrates the gutsy ambition that we've denied the real NASA)
Highly idiomatic (idiomatic)	These are frozen formulas whose meanings are not predictable from the semantics of their constituents.	"He knocked on the doors and stirred the men, most of whom had ***drifted off to sleep*** [to fall asleep gradually]." (Hampton Sides, Penguin Random House, *In the Kingdom of Ice,* 2014).

In principle, there is nothing wrong with the above classifications. Indeed, both taxonomies are required in constructional analyses, as they allow a more fine grained characterization of specific features of MWVs. For example, the meaning of many one-word verbs can be expanded by particles. In free combinations spatial adverbs encode direction while prepositions encode end-state, e.g. *jerk forward into*: "The little plane ***jerked forward into*** a take-off" (Neil Gaiman, *American Gods*, 2002).

3.1.3 Constructionist

The constructionist MWV classification suggested in this paper (see Table 4 for a partial list of motion MWVs) stresses both the predictive value of the verb-particle combination for the semantic interpretation of the clause and the relation of a verb's semantics with the semantics of syntactic constructions (argument structure constructions). As can be gathered from Table 4, the constructional classification of MWVs integrates the specific semantics of the verb+particle combination and the semantics of the argument structure construction it appears in. This is evident in the case of low-frequency verbs with very specialized meanings, including deverbal nouns used in the construction of novel MWVs (see resultative MWVs in Table 4), where the constructional analysis is of great help. As Goldberg (2006: 116) observes, "[i]t cannot be the semantics of the verb alone that is used in the comprehension because the word form is not stored as a verb but as noun". These processing constraints can also be predicted as a determinant of L2 learning as well. The constructional analysis thus views both the lexical-syntactic and the semantic dimension of MWVs as instances of the overall meaning of the clause. It follows that constructional MWV types are not deemed to reflect intrinsic semantic qualities of individual MWVs. For example, the MWV "*lay down*" conveying caused-motion in "I ***lay down*** my burden", is labeled a caused-motion MWV only as a result of its relation to that specific ASC in that particular clause. In addition, the label takes into account the experiential side of language is encoded in the MWV which can be expressed either in terms of *literal* or *metaphorical* movement. Expectedly, the form of the verb must be characterized as a stored pattern and not as a linguistic form (a word or phrase).

Relatedly, many of the syntactic features associated with the MWVs described above should also be considered in constructional analyses. For example, many MWVs can be said to activate either shifted- or adjacent-particle constructional patterns. In this sense, either pattern accounts for an instance of an ASC-relation, namely *(1)* the *transitive* (VO) and *(2)* the *ditransitive* (VOO). In the case of transitive MWVs, these are constrained by discoursal features, such as pronomi-

nalization or object length (long noun phrases are not usually placed between a verb and its particle). As for ditransitive MWVs, the discoursal constraints to particle shifting include topic newness, that is, the indirect object is considered a secondary topic (cf. Goldberg 2006: 138), pronominalization, and topic length.

Table 4: A partial constructionist classification of MWVs (featuring motion-verbs only).

ASC	MWV Label	Definition	Form	Meaning	Sample
Ditransitive	VOO-MWV	*Transfer MWVs* involves the action of a subject (Actor) who transfers an Object (called transferred Object or Undergoer) to a Recipient. This construction combines the meaning of the MWV with the meaning of the ditransitive ASC (X causes Y to receive Z), involving either a literal or metaphorical transfer. Although the VOO ASC cannot always be paraphrased by means of a prepositional dative construction, transfer MWVs can be interpreted as a syntactic construction with similar semantic properties as those ascribed to double-object MWVs.	(Subj) V Obj1 Obj2	X causes Y to receive Z	"They (Actor) carried the gene and ***passed*** it (transferred Object) ***on to*** their descendants (Recipient)" (*Corpus of Contemporary American English*, Davies 2008)
Caused-motion	VOL-MWV	*Caused-motion MWVs* (VOL-MWVs) involve the literal or metaphorical action of an *Actor* on an *Undergoer* (i.e. X causes Y to move from/to Z).	(Subj) V Obj $\text{Oblique}_{\text{PATH}}$	X causes Y to move (from/to) Z	"R-A (Actor) ***poured*** it (Undergoer) awkwardly ***into*** Horn's open, trembling mouth (Oblique path)" (John Sanford, *Field of Prey*, 2015)

Table 4: (continued)

ASC	MWV Label	Definition	Form	Meaning	Sample
Intransitive motion	VL-MWV	*Intransitive-motion MWVs* express the action of an Agent (subject) who moves intentionally on a path (i.e. X moves to Z).	(Subj) V $Oblique_{PATH}$	X moves to Z	"She (Agent) ***hobbled out of*** the cab (Oblique path)" (Mary Higgins Clark, *We'll Meet Again*, 2000)
Removal	RML-MWV	*Removal MWVs* express the action of an Actor on an Undergoer which is removed from a path or location (i.e. X causes Z to move from Z). These MWVs contain a one-word verb + the particle OFF.	(Subj) V Obj $Oblique_{SOURCE}$	X causes Y to move from Z	"I (Actor) ***pulled off*** my clothes (Undergoer) and then clambered into bed with the TV remote" (Joanna Wylde, *Devil's Game*, 2014)
Transitive	VO-MWV	*Transitive MWVs* involve an Agent acting on an Undergoer (direct object).	(Subj) V Obj	X acts on Y; X experiences Z)	("You" <implicit Agent>) ***Pack*** it (Undergoer) ***up***!
Resultative	VOR-MWV	*Resultative MWVs* involve the action of an Actor on an Undergoer who passes from an initial state to an end-state. The end-state is expressed by a noun or an adjective associated with the lexical verb.	(Subj) V Obj RP	X causes Y to become Z_{STATE}	"Dizzy with tension, John Arnold (Actor) ***threw open*** (end-state) the door (Undergoer) to the maintenance shed" (Michael Crichton, *Jurassic Park*, 1992)
Way construction	WAY-MWV	Way-bound MWVs involve an Agent who creates an Abstract Path for his/herself. The created path leads to a potential SOURCE or TARGET PATH.	(Subj) $V_{[possible\ way]}$ ObliquePATH	X creates a path and moves Z path	"She ***fought*** her way (abstract path) ***out of*** the web of her dark dream, tears running down her face (Source Path) (Christine Feehan, *Dark Nights*, 2012)

Defining Applied Cognitive Construction Grammar

Applied Cognitive Construction Grammar (ACCxG) is a theoretical framework for input modeling in L2 instruction. It combines cognitively-informed instructional approaches, such as *Focus on Form* (FonF; Long 1991), *Task-based Language Learning* (TBLT; Skehan 1996), *Data-driven Learning* (DDL; Johns 1991), and *Paper-based Data-driven Learning* (PbDDL; Boulton 2010; Torres-Martínez 2015). One of the tenets of ACCxG is that an understanding of the determinants of constructional learning lies at the core of the development of relevant input that relates learners' *experience* with the physical world. In this sense, ACCxG claims that our experiences with language are *embodied* (Goldberg 2016), that is, that it is the architecture of our bodies which constrains our interactions with the world and ultimately shapes language use. For example, both *upright posture* and *bipedal walking* condition our experiences with *path* and *trajectory* respectively. Thus, when undertaking bipedal locomotion, the human musculoskeletal design performs locomotor tasks determined by the *upright orientation* of the body in space. Inevitably, language has evolved as an *embodied symbolic system* which reflects, among other things, the orientation of the body vertically or horizontally as a response to differences in gravitational acceleration. Relatedly, when someone "*sits down*", the *actor* in this cognitive scene moves from a higher to a lower position (in satellite-framed languages like English, i.e. those using particles to add spatial information, the direction of this movement is encoded by the particle "*down*"). Clearly, basic meanings associated with the generation of walking in humans filter through into the linguistic system in the form of constructions such as *general purpose verbs* (e.g. *come, go, take, put*, etc.), often associated with specific particles (spatial adverbs or prepositions). For instance, in the case of the sentence "I *get on* the bus every morning", which displays a transparent verb-particle association (we can predict what the GET+ON combination means from its parts), the multiword verb "*get on*" evokes an embodied linguistic experience. However, the connection between the verb and its physical substrate is not always predictable from the structure of the verb-particle combination. In this case, we are faced with a *semantic extension* from a prototypical spatial verb over a group of related metaphorical uses, a process called *motivation* (Goldberg 2006). For example, when we use the verb "GET" in expressions, such as "to *get on* one's knees", "to *get on* someone's radar", "to *get on* a subject", "to *get on* a computer", etc., we elaborate on meanings (obeying different metaphorical gradations) that extend from basic spatial meaning: to move forward and step onto a container are motivated by the general purpose verb GET+ the particle ON.

Therefore, rather than positing *rules* (e.g. the lexical verb "GET" is followed by the preposition "ON" and a prepositional phrase to express this or that mean-

ing), or having learners to memorize lists of lexical items to deal with both factual and metaphorical meanings, the constructionist approach to multiword-verb pedagogy analyzes the combination of specific verbs (lexical items) with the clause (construction). For instance, in the sentence "He *gave* the girl a detailed explanation", the one-word verb "GIVE" profiles (activates) three participants, a *Donor* ("He") an *Undergoer* ("a detailed explanation"), and a *Recipient* ("the girl"). As can be seen, the verb's meaning (to give something to someone), matches the meaning of the argument structure of the sentence in which it appears, namely "*someone causes someone to receive something*".

Crucially, in applying this type of analysis, it is also possible to see how the inner underlying syntactic structure of idioms (containing multiword verbs) remains active. As a result, the idiom "to walk one's feet off" (meaning "to walk too much and tire out someone's feet, including one's own"), is analyzable in terms of its underlying syntactic structure, thus:

(3)

	(Causer)		*(Undergoer)*	
Surface form	I	**walked**	my feet	**off**
Paradigmatic substitution	Subject slot (variable)	Lexical-verb slot (partially variable)	Object slot(partially variable)	predicate slot (invariable)
Abstract form	**Subj**	**Verb**	**Obj**	
Meaning	**X**	causes	**Y** to become	$\mathbf{Z}_{\mathbf{STATE}}$
	(Causer)		*(Undergoer)*	

As can be seen, the four slots available to this idiom display a variable, two partially variable, and an invariable [1V+2PV+3PV+4INV] structure. Clearly, the use of spatial metaphors, that is, "using spatial words to describe nonspatial entities, states, or relationships" (Casasanto and Bottini 2014: 149), is indicative of underlying cognitive scenes amenable to systematic analyses. From this vantage, language is no longer viewed as a collection of core rules to be acquired, but as a system of constructions which emerges from the conspiracy of input and usage over time.

4 Applied Cognitive Construction Grammar in the ELT classroom

In this section I will explain how the process of L1 learning can be emulated in the classroom. To that end, I first describe some of the determinants of constructional learning, namely (1) *statistical prediction of patterns*, (2) *type and token frequency*, (3) *Zipfian distribution*, (4) *Function (prototypicality of meaning*); and (5) *contingency of form-function mapping* (cf. Ellis and Collins 2008: 350–351; Ellis, O'Donnell, and Römer 2013: 31–32). It is argued that the integration of these determinants is crucial for the design of a type of cognitively-relevant input that takes into account form-meaning relations in L2 learning. Nevertheless, differences in L2 learning must be acknowledged. While in L1 constructional learning *noticing* (unconscious mapping) is essential for the process of generalization, categorization during L2 reconstruction requires explicit teaching (entailing the processing of metalinguistic information during language production and comprehension) on the basis of *ad hoc* constructional input (noticing does not necessarily imply form-meaning connections). Since L2 learning faces dire shortages of resources, constructional input must be not only diverse but fundamentally focused on building specific linguistic aspects. The determinants of L1 learning are outlined in turn.

Frequency: Statistical prediction of patterns (input frequency)

There is a strong correlation between language processing and input frequency. This entails the noticing of constructions by means of statistical cues (Goldberg 2006: 60) enabling learners to make predictions about specific patterns of occurrence, such as syntactic regularities between categories of words or sound patterns (Goldberg 2006: 71). Statistically-driven learning abilities also include the distinction of grammatical categories, the combination of word-level and syntax-level statistical information in the construction of novel utterances, as well as the learning of morpho-phonological paradigmatic constraints (Goldberg 2006: 71).

Type and token frequency (type and token identification)

Statistical cues also explain why learners can identify the frequency of specific tokens (language forms) in the input, as well as paradigmatic permutations of a given type (a *slot*, i.e. replaceable item in an utterance) in either a word (e.g. a phoneme), or in a syntactic construction (e.g. a verb in a clause). For example, the

type frequency of morphological case endings, such as – e*d* (for simple past) or – *ing* (for past progressive) is higher than that of vowel replacement in irregular verb forms, e.g. h*a*ng/h*u*ng.

Zipfian distribution (Definition of prototype frequency)

Categorization from prototypical exemplars in the input is possible through low-variance of samples which makes possible that the generalization from simple prototypes be further extended to all the exemplars available in the language. For example, it has been demonstrated that some verbs are more frequently used than others. The patterns of use of those verbs are *Zipfian* (Zipf 1935), i.e. the frequency of an exemplar "decreases as a power function of their rank in the frequency table" (Ellis, O'Donnell, and Römer 2013: 32) with the most frequent word being "twice as often as the second most frequent word, three times as often as the third most frequent word, and so on" (Ellis, O'Donnell, and Römer 2013: 32). Categorization is thus refined on the basis of a hierarchical system of divisions and subdivisions of semantic classes and form-function structures. For the purposes of this paper high-frequency verbs are, however, not considered as absolute predictors of token frequency *per se* (cf. Goldberg 2006: 77).

Function: Prototypicality of meaning

The gradient structure of categories entails that some exemplars of a category are more representative of that specific category than others. In the process of constructional learning of verbs some general purpose verbs, such as *go, put, get*, and *come* are more productive and hence learned earlier than other verbs. Likewise, specific argument structure constructions are associated with prototypical action verbs considered as low-variance samples of that particular category. Therefore, the verbs *go* and *get* occur with the verb-locative ASC with a frequency that is far from random (cf. Ellis and Ferreira-Junior 2009: 32). These constructions are less prone to be abstracted away (stored defectively) than other constructions conveying more complex meaning (cf. Goldberg 2006: 62).

Contingency of form-function mapping (salience and perception)

Another reason why certain constructions (or parts thereof) are not successfully represented by learners is that some features of the category to which the con-

struction belongs are more relevant to assign class membership. In non-linguistic categorization, for example in the learning of the category of birds, "while eyes and wings are equally frequently experienced features in the exemplars, it is wings which are distinctive in differentiating birds from other animals. Wings are important features to learning the category of birds because they are reliably associated with class membership; eyes are neither." (Ellis, O'Donnell, and Römer 2013: 33).

As laid out above, constructional learning is non-modular and non-specific to language. So, intuitively, it appears to be plausible that all the cognitive mechanisms necessary to learn non-linguistic knowledge are at play to combine language form and usage in instructionally-relevant input. Crucially, in order to boost the learning of constructions in instructed settings, it is first necessary to create pedagogical contexts in which enriched forms of constructional input can be used. This leads on to the definition of the instructional rationales behind *Applied Cognitive Construction Grammar*, namely *Focus on Form, Task-based Language Teaching, Data-driven Learning*, and *Paper-based Data-driven Learning*. These are described in the subsequent sections.

4.1 Focus on Form (FonF)

In *Focus on Form* (FonF; Long 1991) meaning is constructed through an emphasis on "interaction and cognitive processing in L2 acquisition" (Shintani 2013: 38). This instructional model aims to include specific cognitive processes, namely *noticing* and *noticing the gap* by means of a *negotiation of meaning* and *negotiation of form*. However, in contrast to traditional FonF, the negotiation of meaning suggested by the ACCxG model is not strictly output-oriented, i.e. focused on tackling communication problems during interaction. The reason is that no gap between the input and the learner's *interlanguage* (a term that presupposes an abstract series of developmental stages in language construction) is invoked. In other words, L2 learning is not divided into discrete language-specific developmental stages, but on cognitively driven learning curves. On the other hand, corrective feedback is not supposed to correct anything "erroneous" in the learners' production (again, defective mapping of grammatical form and function are not dependent on language-internal variables). Since learning is defined in terms of the reconstruction of language through the medium of general cognitive mechanisms, successful communication is not deemed to draw on *language-as-production* but on *language-as-construction*. This is best accomplished when constructional tasks are modeled both in a bottom-up and a top-down fashion by way of an input-driven *Construction Learning Cycle* (see Figure 2).

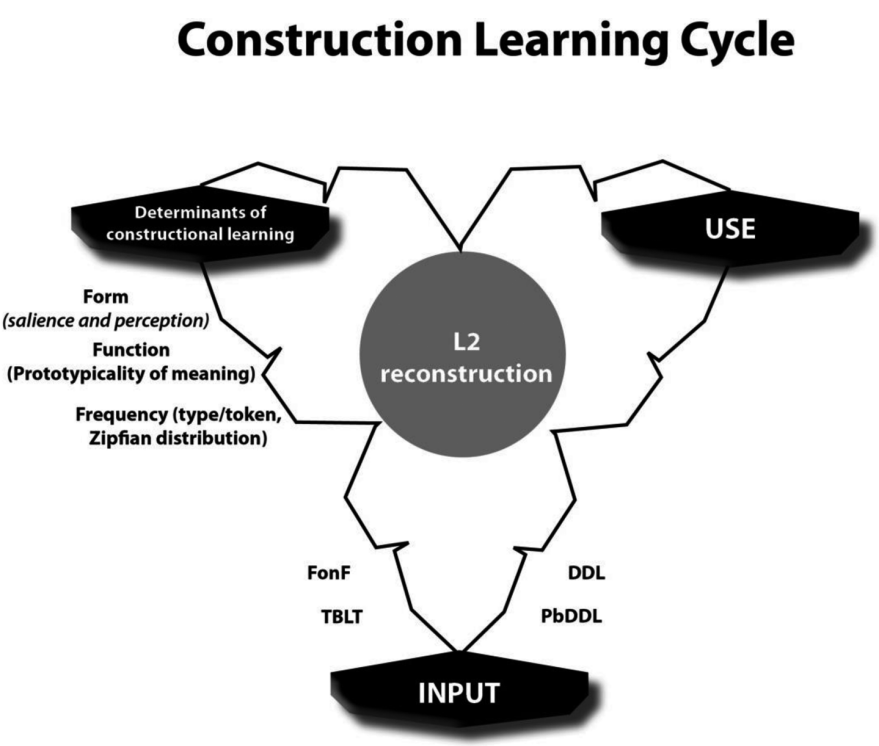


Figure 2: The *Construction Learning Cycle* displaying the interaction of the determinants of language learning, input and context in L2 reconstruction.

As can be seen, the purpose of this model is to assign the five determinants of constructional learning discussed in the previous subsection to any possible input form available in the L2 reconstruction in a specific context. Hence, for ACCxG, constructional input is the product of the interaction of these five determinants which facilitate the construction of both general and item-specific linguistic knowledge. Input processing (the connection of form and meaning) is thus bound up with the whole process of language learning "seen as reflecting our understanding of the world and our interaction with it" (Tyler 2012: 19). As such, language should be presented to L2 learners as a cognitive phenomenon. Although the construction of the L2 should be, in principle, analogous to the learning of the L1, both processes are different due to the constraints imposed by the amount of input available. One of the main constraints to the process is that L2 learners' usage is L1-biased (i.e. the constructions in the L1 compete with those of the L2). This results in a higher rate of processing time devoted to cross-linguistic generalizations, often leading to overgeneralization and mismatch between form and meaning mappings.

Because this view entails attention to specific input properties for the development of both general and item-specific knowledge, the introduction of prototypical exemplars in a category of target constructions to be taught must be selected from a set of statistically relevant prototypes available in the L2. Furthermore, a fair amount of generalizability should be determined in advance, for example, which grammatical prototypes should be learned first to prompt further exemplar-based learning. On the other hand, since grammar is only partially general (Goldberg 2006: 49), that is, not all of the constructions in a language can be generalized, item-specific knowledge must be integrated in the input. The interplay of general and item-specific exemplars demands a combination of tasks based on either consciousness-raising (with a focus on features) or input processing (with a focus on general patterns). As can be gathered from the above characterization, the usage-based model sets its focus on the observation of native-like constructions, their form, meaning and context of use, as a model for L2 reconstruction. Communication is thus fostered as the result of a view of language as a system that integrates phonology, morphology, syntax, semantics, and pragmatics in contexts of interaction.

4.2 Task-based Language Teaching (TBLT)

Peer-interaction is promoted by means of *Task-based language Teaching* (TBLT) design principles whereby "meaning is primary, there is a relationship to the real world, task completion has some priority, and the assessment of task performance is in terms of task outcome" (Skehan 1996: 38). However, one of the major critiques to TBLT is that it ignores the sociolinguistic component of classroom interactions. Tasks based on TBLT are viewed as self-contained and hence limited to the instruction of specific content without much appeal to long-term learning. Tasks are also perceived as being too focused on meaning and less concerned with form. The attention to linguistic code is thus said to dissolve in peer-to-peer interactions aimed at solving specific communicative gaps. In particular, it is argued that a good way to tackle this problem consists in presenting learners with *MWV constructional templates* (see Appendix A) which are designed to draw learners' attention to specific linguistic patterns. Since they integrate graphically form and meaning, the attention to target structure features can be enhanced.

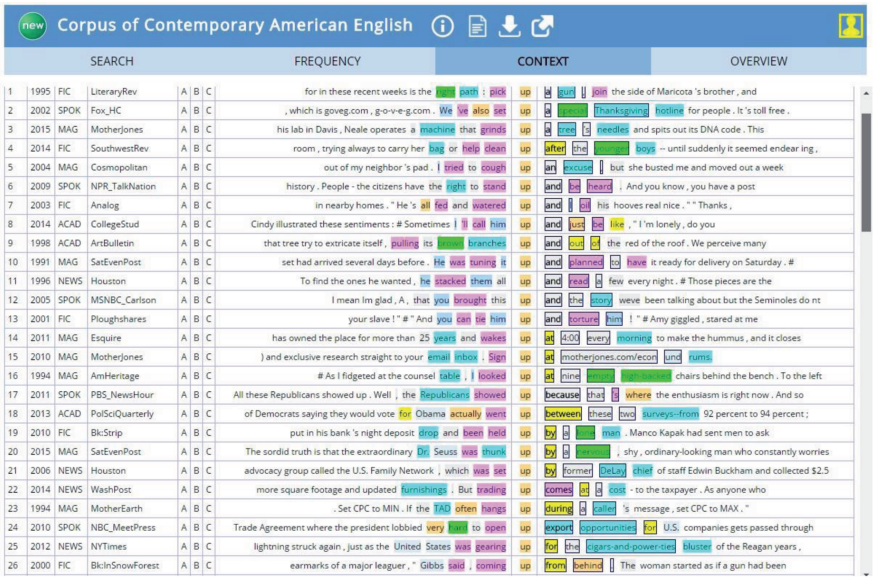
Constructional tasks are designed to include a pre-task component by virtue of which learners' attentional resources are mobilized to focus on form and meaning at the same time. A not so evident objective in introducing a pre-task section is to provide learners with conceptual tools that help them avoid overgeneraliza-

tion of argument structure. In making explicit the form-meaning relations behind ASCs, generalizations beyond the input are reinforced. This is because regularization (overgeneralization) occurs when the input is unpredictable. As already explained, MWVs cannot be simply presented as verb-particle combinations, but as part of syntactic constructions that profile specific *participant roles* (donor, recipient, and transferred object). An argument against a purely inflectional basis for constructional learning (i.e. the adding of suffixes such as – *ed* for simple past) is that learners are prone to favor syntactic mapping over morphological mapping during sentence analysis. In other words, word order and not word inflection is crucial for the mapping of novel form and meaning (cf. Goldberg 2006: 83–85). This entails the mapping of novel form onto novel meaning at a clause level. In the next section I will explain how data-driven learning (DDL) can improve substantially learners' prototype construction by an exposure to skewed MWV input.

4.3 Data-driven Learning (DDL)

Given that the process of language reconstruction in the classroom is limited by the size and quality of the input available, statistically relevant real-life language samples are required. Language corpora are thus deemed to provide access to a wealth of constructional patterns not available in traditional textbooks. In this section I will present specific guidelines for the inclusion of level-tuned corpus-driven samples, the direct analysis of data by both teachers and learners, as well as the pedagogical basis the successful implementation of both Data-driven Learning and Paper-based Data-Driven Learning in construction-based ELT.

Data-driven Learning (DDL; Johns 1991) has traditionally focused on the hands-on consultation of corpora for pedagogical purposes. Learners are thus expected to conduct their own "linguistic research" in a corpus (a collection of texts compiled for linguistic analysis) with views to identifying specific patterns and regularities in the samples. This is best accomplished through the use of a *concordancer*, a computer program which provides a type of data reading in which the target structure is placed right at the center of the screen, i.e. in keyword in context display mode, to be read vertically (see Figure 3).



1	1995	FIC	LiteraryRev	A B C	for in these recent weeks is the right path : pick	up	a gun , join	the side of Maricota 's brother , and
2	2002	SPOK	Fox_HC	A B C	, which is goveg.com , g-o-v-e-g.com . We 've also set	up	a special Thanksgiving hotline	for people . It 's toll free .
3	2015	MAG	MotherJones	A B C	his lab in Davis , Neale operates a machine that grinds	up	a tree 's needles	and spits out its DNA code . This
4	2014	FIC	SouthwestRev	A B C	room , trying always to carry her bag or help clean	up	after the younger boys -- until suddenly it seemed endear ing ,	
5	2004	MAG	Cosmopolitan	A B C	out of my neighbor 's pad . I tried to cough	up	an excuse , but	she busted me and moved out a week
6	2009	SPOK	NPR_TalkNation	A B C	history . People - the citizens have the right to stand	up	and be heard .	; And you know , you have a post
7	2003	FIC	Analog	A B C	in nearby homes . " He 's all fed and watered	up	and , oil	his hooves real nice . " " Thanks ,
8	2014	ACAD	CollegeStud	A B C	Cindy illustrated these sentiments : # Sometimes I 'll call him	up	and tuck be	like , " I 'm lonely , do you
9	1998	ACAD	ArtBulletin	A B C	that tree try to extricate itself , pulling its arms branches	up	and out of	the red of the roof . We perceive many
10	1991	MAG	SatEvenPost	A B C	set had arrived several days before . He was tuning it	up	and planned to	have it ready for delivery on Saturday . #
11	1996	NEWS	Houston	A B C	To find the ones he wanted , he stacked them all	up	and read a	few every night . # Those pieces are the
12	2005	SPOK	MSNBC_Carlson	A B C	I mean Im glad , A , that you brought this	up	and the story	weve been talking about but the Seminoles do nt
13	2001	FIC	Ploughshares	A B C	your slave ! " # " And you can tie him	up	and torture him	! " # Amy giggled , stared at me
14	2011	MAG	Esquire	A B C	has owned the place for more than 25 years and wakes	up	at 4:00 every morning	to make the hummus , and it closes
15	2010	MAG	MotherJones	A B C	) and exclusive research straight to your email inbox . Sign	up	at motherjones.com/econ und	rums .
16	1994	MAG	AmHeritage	A B C	# As I fidgeted at the counsel table , I looked	up	at nine enthusiastic	chairs behind the bench . To the left
17	2011	SPOK	PBS_NewsHour	A B C	All these Republicans showed up . Well , the Republicans showed	up	because that 's where	the enthusiasm is right now . And so
18	2013	ACAD	PolSciQuarterly	A B C	of Democrats saying they would vote for Obama actually went	up	between these two	surveys--from 92 percent to 94 percent ;
19	2010	FIC	BkcStrip	A B C	put in his bank 's night deposit drop and been held	up	by a bank	man . Manco Kapak had sent men to ask
20	2015	MAG	SatEvenPost	A B C	The sordid truth is that the extraordinary Dr. Seuss was thunk	up	by a reclusive	, shy , ordinary-looking man who constantly worries
21	2006	NEWS	Houston	A B C	advocacy group called the U.S. Family Network , which was set	up	by former DeLay	chief of staff Edwin Buckham and collected $2.5
22	2014	NEWS	WashPost	A B C	more square footage and updated furnishings . But trading	up	comes at a	cost - to the taxpayer . As anyone who
23	1994	MAG	MotherEarth	A B C	. Set CPC to MIN . If the TAD often hangs	up	during a caller	's message , set CPC to MAX . "
24	2010	SPOK	NBC_MeetPress	A B C	Trade Agreement where the president lobbied very hard to open	up	export opportunities	for U.S. companies gets passed through
25	2012	NEWS	NYTimes	A B C	lightning struck again , just as the United States was gearing	up	for the cigars-and-power-ties	bluster of the Reagan years ,
26	2000	FIC	BkcInSnowForest	A B C	earmarks of a major leaguer , " Gibbs said , coming	up	from behind .	The woman started as if a gun had been

Figure 3: Particle search in the COCA (KWIC display). The particle ***UP*** is placed right at the center of the screen. A color code facilitates the identification of parts of speech, for example the *lexical verbs* (in fuchsia) aligned to the left of the particle.

This type of reading is said to facilitate pattern detection, as the target structures are distributed in lines (or iterations) each providing novel contexts of analysis that can be easily compared with other iterations.

The direct use of language corpora in education (Leech 1997) draws on the notion of unguided noticing of prototype regularities in authentic language samples. The analysis is guided by means of a query which functions as a prompt to arrive at specific conclusions. Nevertheless, among the limitations of this approach are the technical skills required, the conceptual framework necessary for the formulation of appropriate queries, the teacher's lack of time for the preparation of the required instructional environment, as well as the mismatch of DDL (promoting accuracy) with "the prevalent communicative language teaching methodology, which advocates focus on fluency" (Leńko-Szymańska & Boulton 2015: 5). However, this inductive approach to language learning is in keeping with the spirit of constructional learning, since it offers opportunities for an active involvement of learners in the reconstruction of the L2. As already discussed, statistical pattern prediction, token identification, Zipfian distribution, exemplar prototypicality, and feature-based category assignation are all based on noticing which ultimately leads to generalization. Importantly, as noted in the previous section, a blended focus on form and meaning is required

for constructional learning. For example, instead of relying on the direct use of corpus analysis software (concordancers), teachers may provide learners with paper-based hand-outs hinging on the same instructional principles of DDL. This is the subject of the next sub-section.

4.4 Paper-based Data-driven Learning (PbDDL)

In order to reduce the instructional complexities inherent in DDL, an alternative way has been suggested: *Paper-based Data-driven Learning* (PbDDL; Boulton 2010; Torres-Martínez 2014, 2015). As the name indicates, instead of hands-on corpus consultation, printed concordance lines in KWIC display mode can be used as a means to induce noticing among learners. The present account offers a set of variations of the PbDDL paradigm by combining visual cues and real-life language samples. As already noted, every construction-driven task should include a pre-task section capable of providing access to the mapping of constructional patterns, as well as a discussion section in which learners' conclusion can be made explicit. In addition, the introduction to specific constructions should reflect the dynamics of a construction learning cycle. As already shown, in Figure 2, the teaching of MWVs is more effective when these constructions are presented in conjunction with syntactic constructions (ASCs). In this sense, constructional meanings associated with highly-frequent functions, namely intransitive motion (X moves Y), caused-motion (X causes Y to move to Z), etc. should be skewed in the input. These patterns provide a "cognitive anchor, where a high-frequency type of example acts as an anchor, i.e. a salient standard of comparison" (Goldberg 2006: 89) for further learning of constructions. However, further mappings of form and function are not determined solely by frequency but by "noting [the correlation of form and meaning] across several distinct verbs, each with relatively low frequency" (Goldberg 2006: 89).

Ideally, the iterations containing specific verbs should combine both general and item-specific constructions, for example, transparent MWVs along with more idiomatic patterns. Such combinations are required, since they act as surprisal cues that strengthen both priming effects, in particular structural priming, i.e. "a speaker's tendency to reuse the same structural pattern as one that was previously encountered" (Shin and Christianson 2012: 931). This entails the priming of constructions "which means that the level of generalization involved in argument structure constructions is a useful one to acquire" (Goldberg 2006: 125). Not only should core and peripheral constructions be combined in a single task, PbDDL tasks should be designed to prepare learners to avoid the overgeneralization of patterns beyond the input provided by a single task.

Constructional productivity thus depends on four factors (cf. Goldberg 2006), namely (1) *entrenchment (token frequency)*, (2) *statistical pre-emption*, (3) *type frequency*, and (4) *the degree of openness (item-variability)* of a constructional pattern. In combining these factors in specific tasks, the process of constructional analysis of complex constructions can be leveraged. For example, once learners have been exposed to the use of transitive MWVs, the MWV constructions associated with that specific ASC become entrenched, i.e. the argument structure pattern they belong to "block(s) the creative use of the verb[s] in any other argument structure pattern, unless a second pattern is witnessed in the input" (Goldberg 2006: 94). This effect can be replicated in L2 tasks by introducing prototypical VO-related MWVs conveying literal meanings (e.g. *pick up, set up, bring up*) which can be further analyzed against the backdrop of MWVs conveying more metaphorical instances. In addition, statistical pre-emption, i.e. the blocking of general knowledge in favor of specific knowledge (Goldberg 2006: 94) has a role in determining which verbal constructions have a chance to be more productive than others. For example, the irregular simple past form of the lexical verb in "*went* down" pre-empts the possible use of the regular MWV construction "*goed* down" as a result of overgeneralization of the *–ed* ending. As we have seen, one of the advantages of the syntactic analysis of MWVs is that morphological variability can be systematized by means of an association with a restricted set of ASCs in English. Thus, when a MWV is learned in conjunction with an ASC pattern, this pattern is likely to become associated with additional verbs (cf. Goldberg 2006: 99). Therefore, pattern extensions are only directly linked with an ASC, if such extensions are noticed by learners. In this sense, a novel MWV pattern can be used with a particular ASC provided that they are semantically similar to other MWVs previously witnessed in that ASC.

Although the rationale behind PbDDL tasks deviates largely from the traditional notion of task, it can be described by means of Rod Ellis's general framework (2003: 21). Thus, PbDDL tasks involve *(1)* a goal to help learners map form and function in specific constructions; *(2)* a multimodal input in the form of both visual and linguistic cues (e.g. constructional templates, pictures, graphs, etc.); *(3)* a methodological procedure involving pre-task time and pairwork; and *(4)*, the promotion of cognitive processes such as "selecting, reasoning, classifying, sequencing information and transforming information from one form of representation to another" (Ellis 2003: 7). In particular, constructional templates provide a visual prompt containing four instances for the analysis of MWVs: Pragmatic, concrete, form, and meaning. These instances reflect cognitive mechanisms in constructional learning by stressing the ASC-MWV relation. Importantly, the reading of the template begins with the association of form

and meaning in a concrete construction having a pragmatic value. In analyzing the concrete instance, learners should first pay attention to the MWV slot (the gray box), as well as the elements associated with the verb (in the yellow box). Since all instances are aligned vertically, the elements contained in them can be related, for example, the subject in the form instance with the *Causer* in the meaning instance. A correct reading of the template is required for a successful mapping of the constructional patterns provided in the task section. A combination of both vertical and horizontal types of reading is necessary to bring to the fore the fact that participants, such as *Actors* and *Undergoers* are "expressed in prominent syntactic positions" (cf. Goldberg 2006: 185), which facilitates the access to sentence meaning. In principle, all tasks follow the same structural pattern: *(1)* a pre-task section featuring a *constructional template* that integrates constructional stimuli to facilitate a quick mapping of form and function; *(2)* a *corpus-driven section* displaying the target construction either in KWIC display mode or in the form of sample texts (see Figure 4). The type of task depicted in Figure 4 is *focused*, that is, it is designed to "induce learners to process, receptively or productively, some particular linguistic feature, for example a grammatical structure" (Ellis 2003: 16).

The task illustrated in Figure 5 (in KWIC display mode) is *unfocused*, that is, "it may predispose learners to choose from a range of forms but they are not designed with the use of specific form in mind (Ellis 2003: 16). As can be seen, the target structure is the particle "UP", placed vertically at the center, with its associated verbs organized in the left span (the line 2 features a past participle). Other clause constituents, such as direct objects and adverbials usually appear on the right span; *(3)* in the reflection section learners exchange their conclusion on key aspects of the construction studied. This two-way exchange task (CEF level A2) is also prompted by specific queries. As can be seen, this particular task does not include a pre-task section, since the focus is on reviewing the general concept of argument structure construction.

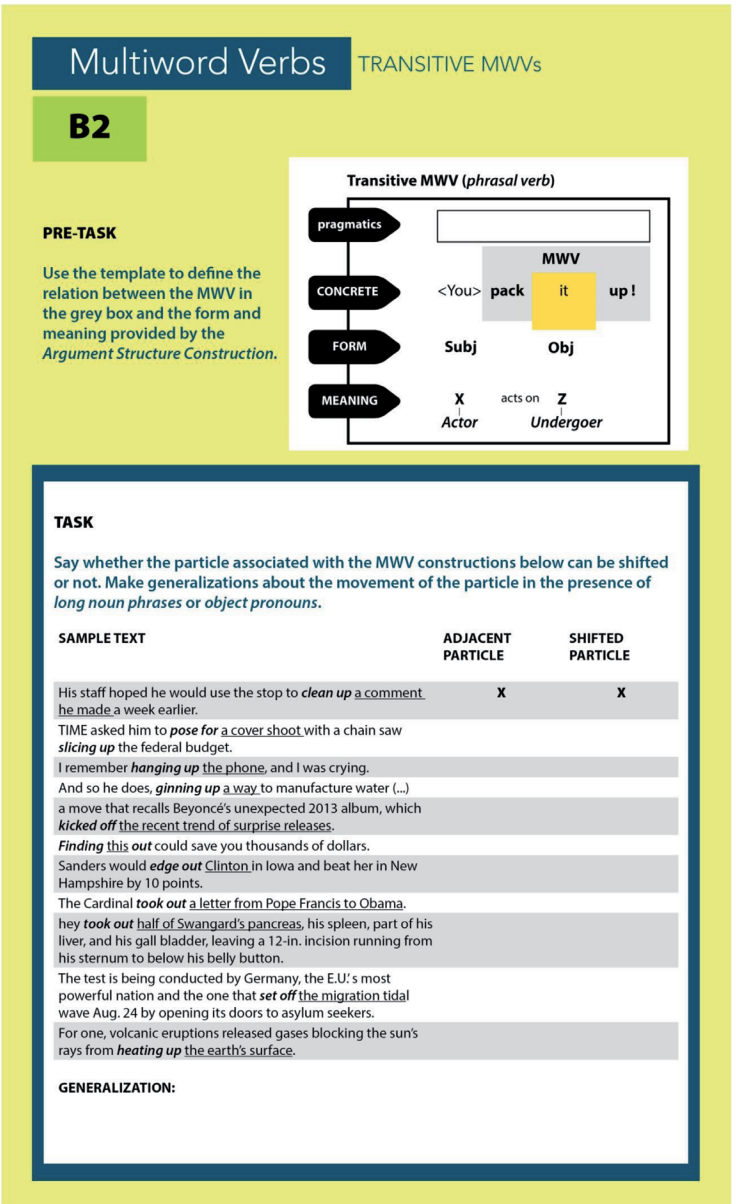


Figure 4: A sample MWV task featuring the pre-task, the task, and the generalization sections.

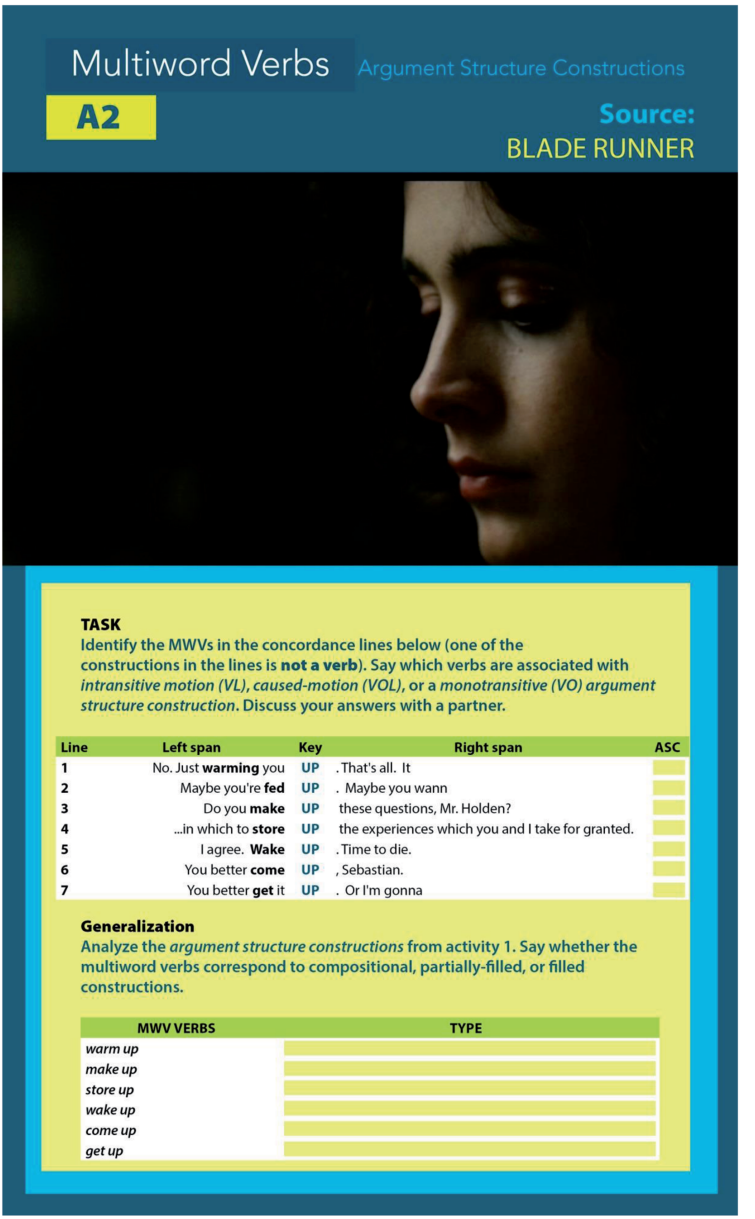


Figure 5: A sample MWV task featuring the task and the generalization sections in KWIC display mode.

5 Conclusion

The main purpose of this article is to connect ELT with linguistic theory by means of a principled proposal for the construction of cognitively-driven pedagogical grammar. As Tyler (2012: 222) aptly observes, "no analysis of L2 learning or approach to L2 teaching can be complete without a clear understanding of the model of language it assumes". In particular, evidence has been presented in favor of a Cognitive Construction Grammar approach, a framework that characterizes language as a network of constructions whose learning is "input-driven and depends on the learner's experience of the form-function relations" (Wulff, Ellis, Römer, Bardovig-Harlig, and Leblanc 2009: 355). The constructionist approach has been introduced as a suitable window into a pedagogical analysis of linguistic constructions that goes beyond the traditional "lexis and rules" focus in ELT (Littlemore 2010, cited in Tyler 2012: 221).

Within this framework, issues about the learnability of complex constructions, such as MWVs take center stage. Thus, a classification of MWVs has been introduced in relation to abstract syntactic constructions (argument structure constructions). This taxonomy reflects the constructionist view of syntax as independent from lexis. Consequently, individual verb meanings are downplayed in favor of whole-clause analyses. It has been suggested that ASC-related MWVs become amenable to classroom exploitation by means of four cognitively-driven language learning approaches: *Focus on Form* (FonF), *Task-based Language Teaching* (TBLT), *Data-driven Learning* (DDL), and Paper-based *Data-driven Learning* (PbDDL).

Applied Cognitive Construction Grammar has not sprung full born from a bed of CCxG. Its potential success will be determined by the extent to which its tenets can be confirmed empirically. Because of the tight link between linguistic and non-linguistic processing, the former cannot dispense without the latter. Thus in order to test the plausibility of the applied constructionist model laid out in this paper, the research focus should be set on determining the extent to which L1 reconstruction can be replicated in the L2 classroom by way of an emphasis on general cognitive mechanisms. This entails the formulation of a construction-driven pedagogy that views language as usage-based and learnable from the input. This approach thus points to a robust modeling of input leading to the generalization of constructions. In addition, the role of Focus on Form (FonF), Task-based Language Teaching (TBLT), Data-driven Learning (DDL), and Paper-based Data-driven Learning (PbDDL), should be explored as potentially supportive in the creation of specific materials. PbDDL tasks should thus be designed to increase the productivity of specific constructions in terms of entrenchment, preemption, type frequency, and pattern openness. In summary, the constructional

understandings about language and learning should be recruited in a type of research that situates the inquiry in the classroom where the human cognitive apparatus can be summoned to interpret and construct reality through language. Under this premise, learners and teachers need to become active participants in the construction of language through the noticing (observation) of statistical correlations in the input.

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APPENDIX A

Constructional templates describing the combination of verbal meaning with the meanings of specific *Argument Structure Constructions*.

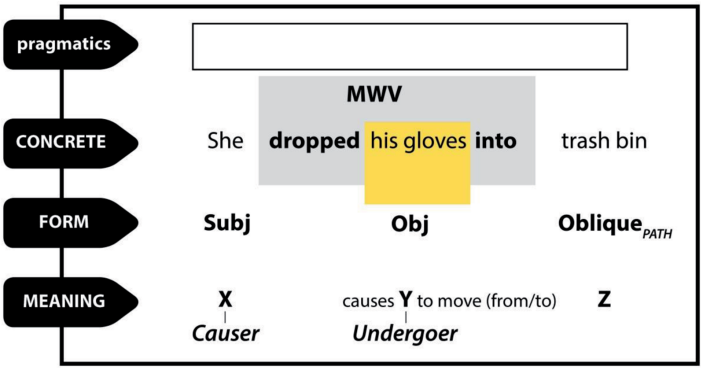

Figure 6: Caused motion MWV (*free combination*).

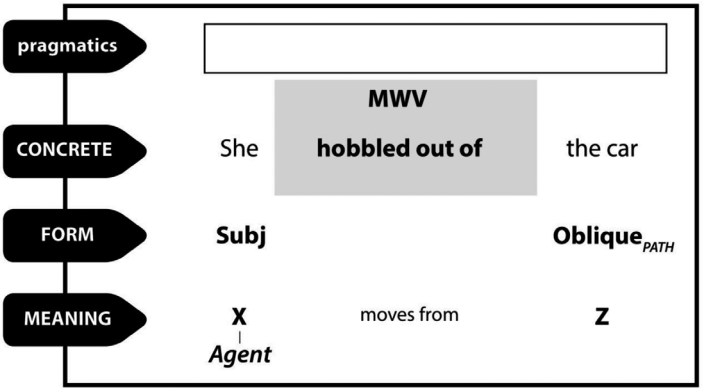

Figure 7: Intransitive-motion MWV (*free combination*).

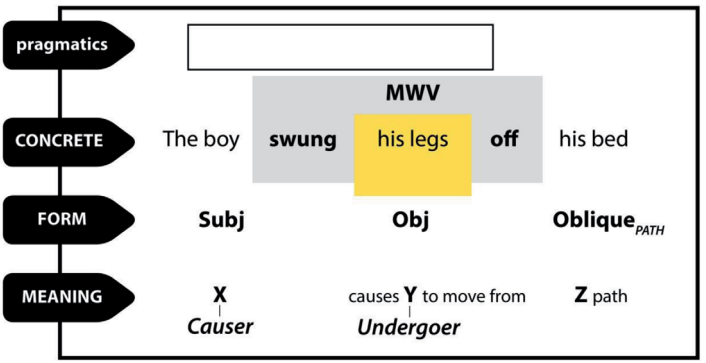

Figure 8: Removal MWV (*free combination*).

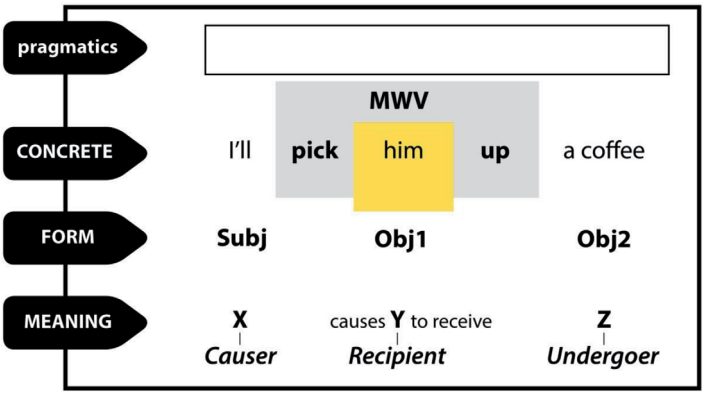

Figure 9: Resultative MWV (*free combination*).

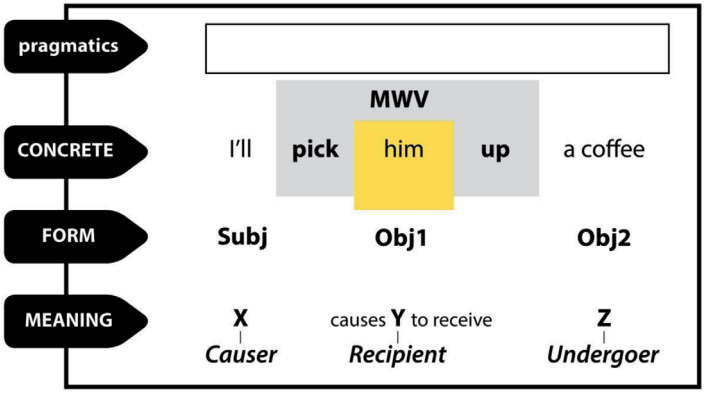

Figure 10: Transfer MWV (*phrasal verb*).

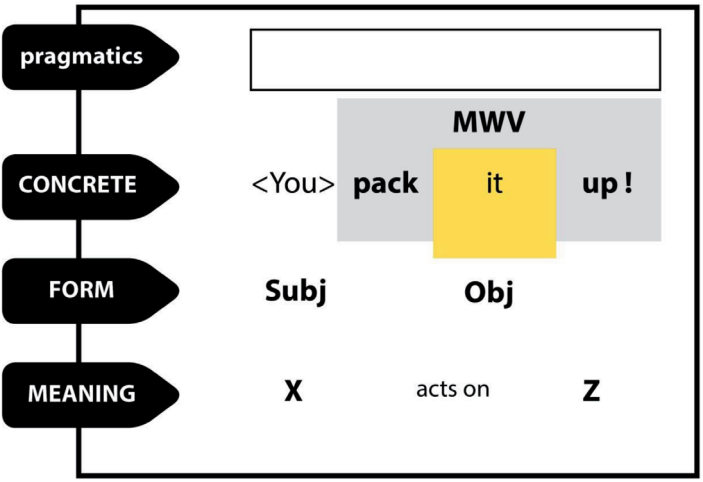

Figure 11: Transitive MWV (*phrasal verb*).

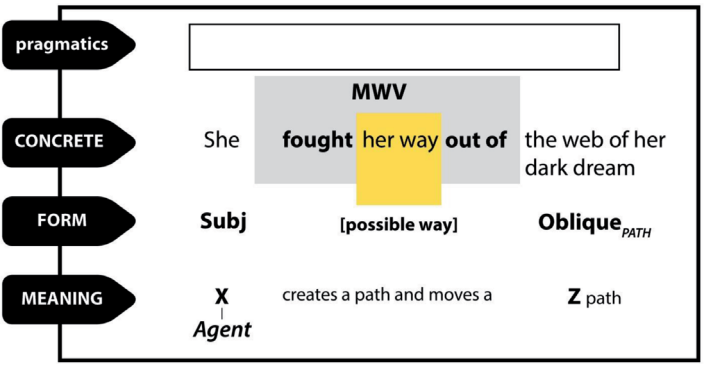

Figure 12: Way-bound MWV (*free combination*).