Predictive Power: Does a Cognitive Linguistic Approach to Phrasal Verb Instruction Increase Learner Comprehension of Novel Phrasal Verb Forms?

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Phrasal verbs (PVs), consisting of a verb and prepositional particle, are a persistent source of difficulty for English language learners. This is in part due to the seemingly endless verb + particle combinations; analysis of a British mega-corpus has revealed that even within the 100 most frequently-used PV forms, there are over 559 different meanings (Gardner & Davies, 2007, p. 359). Furthermore, PVs may take on a range of literal or figurative meanings: consider the differences between *walk out* and *hang out*, *sit down* and *break down, go in* and *check in*. Many PVs even have both literal and figurative senses: for instance, *look up* could be interpreted literally (e.g. "I looked up at the ceiling"), or figuratively (e.g. "things are looking up" or "I looked up this definition in the dictionary"). Finally, PVs are syntactically complex; they are classified as either separable or inseparable, and learners often find it hard to remember whether the object comes before or after the particle.

Traditional teaching methods have advocated that students acquire PVs as they would with other vocabulary items: learn the definitions and associated syntactic rules. This traditional approach stems from the notion that language is governed by grammar, which Chomsky (1969) defines as, "a system of rules that expresses the correspondence between sound and meaning" (p. 62). Within grammar, Tyler (2012) explains, are "a list of vocabulary items that plug into the rules, and a list of exceptions to the rules." (p. 4). Even within a communicative language teaching (CLT) approach, teachers tend to incorporate explanations of these rules and provide definitions for vocabulary items. With PVs in particular, learners are not encouraged to look for meaningful connections underlying PV forms (e.g. "Why might *walk out* and *hang out* be related?"), but to see each PV as a distinct and separate entity, as with other vocabulary items. In many recent ESL textbooks, as White (2012) explains, phrasal verbs are organized "by functional topic (e.g. talking about time), by theme (e.g.

weather), by shared verb (e.g. phrasal verbs with *get*), and by shared particle (e.g. phrasal verbs with *up*)" (p. 420). While these systematic means of organization may provide ease both teachers and students alike, ultimately students still must memorize the meanings and syntactic properties of each PV.

A cognitive linguistic (CL) approach, on the other hand, rooted in Lakoff and Johnson's (1980) conceptual metaphor theory, breaks down the PV into its constituent parts, and encourages learners to use orientational metaphors see that the combinations of verb and particle are not arbitrary, but motivated by underlying principles, as Lakoff and Johnson explain:

> These spatial orientations arise from the fact that we have bodies of the sort we have and that they function as they do in our physical environment. Orientational metaphors give a concept of spatial orientation; for example, HAPPY IS UP. The fact that the concept HAPPY is oriented UP leads to English expressions like, "I'm feeling *up* today." (p. 14).

Thus, in a CL classroom, learners are taught PVs according to the orientational metaphors underlying each particle, rather than according to the meaning of each verb + particle combination as a whole unit.

Recent studies (Blais & Gonnerman, 2013; Condon, 2008; Sadri & Talabinezhad, 2013; Yasuda, 2012), though supporting the CL approach as a whole, are conflicted on two key points: first, does a CL approach provide learners with a durable framework within which *novel* PV forms may be more easily processed? Proponents of this notion argue that the CL framework enables a deeper level of restructuring to occur, enhancing long-term retention of

acquired forms and creating mental spaces in which novel forms may situate themselves. As I will show, the studies display varying results with regard to this notion, likely due to variance in the way the CL approach was operationalized in the classroom. Second, does a CL approach work better for *certain types* of PVs? A more nuanced view, which considers whether the PV is literal or figurative in meaning (the *opacity* of the PV), could help future researchers to determine the efficacy of CL in the comprehension of novel items.

Initial Evidence: CL Approach Successful, but not for Novel Items

There is a long-standing notion that PVs are stored as "lexical chunks." Even recent neuroscience research validates this notion: Cappelle, Shtyrov, and Pulvurmuller's (2010) magetoencephalography experiments recorded neural responses to pairs of pre-existing PVs (e.g. "fall down") and deviant PVs (e.g. "fall up"), providing neurophysical support to the idea that "a congruent verb–particle sequence is not assembled syntactically but rather accessed as a single lexical chunk" (p. 115). Yet, even if one accepts that PVs are *stored* as units, it may be the case that they are best comprehended as separate units connected metaphorically, as shown in seminal research by Kovecses & Szabo (1996) and Boers (2000), which both revealed that learners who are explicitly taught metaphor awareness are better able to learn PVs in comparison to learners who were told to simply memorize the definitions.

Motivated by the findings of these studies, Rudzka-Ostyn (2003) created the only known CL-based workbook designed for learners that specifically teaches PV forms. It uses metaphorical imagery to elucidate the underlying web of connections between seemingly disparate PVs. Each chapter of the book examines one of the 17 most frequently-used PV particles; for instance, in Chapter 1 "OUT" is described as: "Typically, i.e. spatially, it

includes in its meaning the concept of a container and an object which moves *out* of the container" (p. 14). The book provides examples, drawings, and activities; for instance, "hang out," would mean that one moves out of their house (the container) to see someone.

Condon (2008) empirically tested Rudzka-Ostyn's (2003) framework in a large-scale experiment comparing two CL treatment groups to two control groups that were taught using traditional methods of memorization. 160 participants were included, all immediate-level French L1 learners of English. The treatment was administered over the course of several weeks, and a pilot study, pretest, posttest, and delayed posttest were all included in the methodology. Both groups had a lab hour, in which they were taught new material, and an interactive hour, in which they were introduced to unencountered PVs. In the pilot and main study, Condon found that the experimental group significantly outperformed the control groups, especially on the delayed post-test.

Yet, when answering the question of whether or not there was evidence of "strategy transfer," (p. 154) – that is, whether the students in the experimental group would apply knowledge of previous PVs to *novel* forms, Condon's study supported Boers' (2000) findings, which also show no evidence of strategy transfer. When explaining this, Condon points out that the intensity of the teaching and the level of input may not been sufficient enough to allow for significant restructuring to occur. "It may be that the amount of exposure in a single session is simply too little for subjects to be able to fully appreciate the use of individual CL motivations. Not having sufficient input on the different particle meanings, the students may have been unable to fully grasp the systematicity of the particle(s) in question" (p. 150-151).

Thus the results in Condon's study may not have been pointing to a failure in CL strategy itself, but perhaps in the way it was implemented pedagogically during the treatment.

Counter Evidence: CL Approach Improves Processing of Novel PVs

Contrary to Condon's (2008) findings, the results of two more recent primary studies, Yasuda (2012) and Sadri and Talabinezhad (2013) both show strong links between a CL teaching method and the learner's ability to better process novel forms. Yasuda's study of 115 Japanese EFL learners in Tokyo compared a control group taught under the traditional approach with an experimental group taught using a cognitive semantic approach. The traditional group was given a list of PVs and their definitions and asked to memorize them, while the CL group's instruction "emphasized the manner in which the orientational metaphor of the adverbial particle contributed to the meaning of the whole string rather than simply translating it" (Yasuda, 2012, p. 258). Directly applying Lakoff and Johnson's (1980) concept of orientational metaphor, learners were taught meanings such as "MORE VISIBLE/ACCESSIBLE IS UP" and "COMPLETION IS UP" (p. 257). Following this metaphorical awareness-raising explanation, the students in the CL group were asked to "memorize the meanings of these phrasal verbs with reference to a checklist" such that "phrasal verbs were categorized under the headings of the underlying orientational metaphors, together with their Japanese translations. The students were instructed to pay close attention to these orientational metaphors in learning the phrasal verbs" (p. 258). Thus, while Yasuda's treatment operationalized CL in that it draws attention to the underlying meanings of the particles, it also utilized some of the characteristics of the traditional view in that students

were asked to *memorize* the orientational metaphors of particular particles as well as the PV forms themselves.

The total treatment time was ten minutes. Following treatment, both control and treatment groups were both given a task in which they had to fill in missing adverbial particles; the test included both PVs which learners had been exposed to in the classroom (questions 1-15) as well as novel PVs (questions 16-30). Yasuda found that, interestingly, there was no significant difference in scores between the traditional and CL groups for the items that were taught in class; however, the CL group significantly outperformed the control with the novel items. These findings support the idea that both approaches will lead to storage of PVs, yet only the CL approach is beneficial when analyzing novel items. It is particularly surprising that despite the brief duration of the treatment, learners were still able to commit the metaphors to memory and to use them to comprehend additional forms. However, given that the CL treatment approach heavily relied on memorization, one must call to question whether this study is still compatible with CL; perhaps it would be more acceptable if learners had only been asked to memorize the particle meanings, and not the PV definitions as well.

Sadri and Talabinezhad (2013) was significantly more extensive than Yasuda (2012), but reached similar conclusions. 60 female Iranian students, all native speakers of Persian, were divided into an experimental cognitive group and a traditional control group. Over the course of 1.5 months, each group had a total of 24 1.5 hour sessions. Both groups studied 32 target PVs and four specific particles. While the control group was limited to the use of dictionary definitions, synonyms, and practicing using the words in sentences, the experimental group was taught to conceptualize relationships through understanding of the

figure (main object of focus) and the *ground (*secondary focus) as well as the notion of *vantage points*, all concepts that stem from a the thorough CL analysis depicted by Tyler & Evans (2003). These specific linguistic terms, however, were not used with the students; rather, the relationships were explained in simplistic terms. Treatment instruction included drawings that illustrated the categorical relationships exhibited by the presence of different particles, and multiple senses of PVs were explored. There were two main findings that echoed those found by Yasuda (2012). First, while both groups performed equally well on a pretest, the cognitive group significantly outperformed the control on the posttest. Second, on the second half of the test, which covered novel items, the experimental group significantly outperformed the control group.

It is likely that the differences in findings of Yasuda (2012), Sadri & Talebinezhad (2013), and Condon (2008) can be linked to varying operationalizations of the CL approach overall (See Table 1), which raises the question: what explains the relative lack of success of Condon's participants in comprehension of the novel forms? First, though all three studies used orientational metaphors to explain the particles' meanings, Yasuda (2012) asked learners to memorize the definitions of the particles while Condon did not. In fact, it is unclear whether the learners in Condon ever reviewed the definitions of the particles after learning them in class on a particular day. Given the short length of Yasuda's treatment, it is possible these definitions were committed to learners' short-term memory and made no significant lasting impact on the learners; unfortunately, due to the lack of a delayed posttest, we cannot be sure. Regardless, the orientational metaphors provided by Yasuda were very short and memorable (e.g. "UP is COMPLETE"; p. 257) in comparison to Condon's (e.g. "OUT is a change from not knowing about something to knowing about it"; p. 140). Resultantly, Condon

notes that, "students may have found *some* of them to be logical and transparent, and consequently more memorable. However, this may not have been the case with all CL motivations insights" (p. 151). Thus, it may be that a lack of novel-form success, or strategy transfer, was not a result of a CL approach in general, but due to poor presentation of the material.

On the other end of the spectrum, Sadri and Talabinezhad (2013) claim that their learners were better equipped than those in Condon's study because of a more detailed, nuanced CL treatment which provided a richer description of the metaphorical linkages by incorporating descriptions of *figure, ground,* and *vantage points*, components which were overlooked or simplified by Condon's approach (p. 203). As inference requires access to retrieval cues, and "the strength of an inference is a function of the strength with which the cues are encoded" (p. 203).

This raises some practical questions, however, like whether it is realistic for teachers to use such a highly theoretical approach to teach PVs in the classroom. That is, including discussion of theoretical concepts such as *figure*, *ground,* and *vantage points*, could be confusing to learners. Not only would the amount of teacher training in this area be extensive, but it also seems unlikely that schools would be willing to implement 1.5 hours of PV instruction on a regular basis. Because Yasuda (2012) still displayed effectiveness, perhaps the best practical way to implement CL in the classroom would be through finding a middle ground among the three different types of CL instruction used in these studies. For instance, textbooks could include a list of orientational metaphors of particles and ask learners to memorize those, rather than to memorize the meaning of each phrasal verb individually.

Limitations: Are Some PVs inherently more difficult to process?

The previous section noted the extent to which the CL teaching methods themselves could have an effect on the outcome of the studies. One additional factor, noted by Condon (2008) as well as Sadri & Talebinezhad (2013), is whether the *opacity* of a PV could have an effect on its learnability, where literal meanings are *transparent* and figurative meanings are *non-transparent.* Condon's results showed that literal PVs were far more easily and quickly learned than the abstract PVs. Yet, this could be attributable to the fact that abstract explanations were not supplemented by an explanation of the location of the "viewer" relevant to the metaphor at hand (p. 152). "For example, the learner might benefit from an account of why leaving a container renders an entity that stays inside imperceptible (rather than perceptible) which would apply in seemingly opposite situations such as *the lights went out* or *the sun came out*" (p. 152). Sadri and Talabinezhad's study, on the other hand, included *only* non-literal PVs. While this means the study unfortunately provides no comparison between literal and figurative PVs, the high success rates of the learners does bode well for the CL framework's ability to address issues of figurative meaning.

To further explore this question, Blais and Gonnerman (2013) performed an extensive four-part study comparing French-English bilinguals to native English speakers. In one part, the two groups were asked to rate various VPs on a 1-10 scale of opacity. They found that "bilinguals were more native-like in their responses for the high-similarity (more transparent) items than for the low-similarity (opaque) items," which supports the notion that transparent items are easier for second language learners to process. In another part of the experiment, Blais and Gonnerman tested the "Literal Salience Hypothesis" (Cieslicka, 2010; Cieslicka &

Heredia, 2011) which argues that non-literal language is always first interpreted literally and then re-analyzed metaphorically, a process which takes time and may explain the difficulty learners have with opaque PVs. In their experiment, Blais and Gonnerman used a strictly timed "masked priming test" to see whether or not this hypothesis held; they predicted that the subjects would not have enough time to see the words literally and then reinterpret them figuratively in the milliseconds of time that PVs were displayed on a screen in front of subjects (p. 840). Related primes (e.g. cover up/cover), unrelated control primes (e.g. show off/cover) and identity primes (e.g. cover, cover) were displayed on the screens in front of subjects, and non-existent words were also added in to make the task more difficult (p. 841). Respondents pushed yes/no after each pair of primes to determine their correlation. Ultimately, Blais and Gonnerman found that bilinguals had a slower response time overall; apart from this, bilinguals and monolinguals were highly similar in that they both were subject to slower response speeds when faced with more opaque VPs (p. 843). The higher the level of the learner, the more similar in response time to a native speaker. Thus, as the learner increases in proficiency level, the more he or she is able to quickly process the metaphorical meanings; in other words, the Literal Salience Hypothesis only holds true for low-level speakers.

Given the results of Blais and Gonnerman's (2013) study, it may be useful to re-evaluate the CL framework and to adjust it to better suit learners of different levels. Additionally, as they point out, it would be worth studying whether or not drawing learners' attention to the opacity scale improves their ability to comprehend non-literal meanings (p. 845), an endeavor which has yet to be attempted.

Conclusion

The primary studies performed by Condon (2008), Yasuda (2012), and Sadri and Talabinezhad (2013) all show that a CL approach can be useful to learners on the whole; where they differ is that Condon does not display the usefulness of CL in predicting future items. In understanding why Condon failed in this regard, one must look to the way CL was operationalized within each study. One interpretation is that the study did not succeed because learners were not asked explicitly to memorize the definitions of particles, as was done in Yasuda (2012), nor were they provided with clear and memorable definitions of particles to begin with. A second interpretation would be that Condon lacked a proper theoretical explanation of metaphorical concepts. Sadri and Talabinezhad's subjects, for instance, were exposed to a much more nuanced CL view. To combine these two interpretations, one could say that Condon failed in that the instruction attempted to straddle a gray area between theoretical and explicit instruction, and was ultimately successful at neither.

To develop a more fully informed understanding of the effects of the CL framework for future studies, it would be useful incorporate a discussion of how *opacity* effects how PVs are learned in the classroom. The empirical study performed by Blais and Gonnerman (2013) provides strong evidence that L2 learners do process metaphors in a similar way to native speakers. Thus, future research could ask how the learning of novel items is affected by VP opacity; are learners more likely to comprehend novel VPs if they are literal or figurative? Would drawing attention to the fact that there exists a range of opacity of VPs help learners in comprehending them? It would also be interesting to use a longitudinal format to see how far into the future this CL framework would assist learners.

Finally, one last and extremely practical extension of this research would be to examine the current state of pedagogical practices with regard to CL teaching methods. That is, how are PVs taught now with the most widely used textbooks, and how could they be modified to incorporate CL elements in the future? What are activities that teachers can use to promote the development of a metaphorical understanding? How will learners respond? If more research is done into this area, future teachers may not simply tell students to "just memorize it" when presented with a list of PVs; instead, they may have the resources available to them to facilitate a more constructive exchange.

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Table 1

Differing Implementations of the CL Approach

	Number of Particles Covered	Number of PVs Covered	Length of Treatment	Memorization of Particle Meanings	Explanation of Metaphorical Concepts	Success in Novel Forms
Yasuda (2012)	5	21	10 mins./1 sitting	Explicit	Orientational metaphors	Yes
Sadri & Talebinezhad (2013)	4	32	36 hours/10 weeks	None	Orientational metaphors + extensive use of simplified abstract terms: figure, ground, vantage points	Yes
Condon (2008)	4	28	16 hours/8 weeks	None	Orientational metaphors + minimal use of abstract terms	No