

# Cognitive Linguistic Applications in the English L2 Classroom

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## Part I: Introduction

Much contemporary linguistic research based on cognition and native speaker corpus data has helped strengthen arguments for a more usage-based model of language. Due to this, the traditional separation of grammar and communication is beginning to lose its theoretical and methodological hold on language learning research. As L2 educators, what kinds of explanations and practices will lead to greater linguistic competence? How do we envision, accommodate and teach the often abstract linguistic and semantic concepts of an L2? One possible way is by looking more closely at the meanings *in* language and not just the structure *of* language. Without linking syntax and lexis to its inherent usefulness as a conveyer of meaning, its ‘raison d’être’, students are performing what amounts to simple algebraic calculations using English lexicon, perhaps, but certainly not ‘langue’-age learning. “...the idea is to associate a particular linguistic usage to its communicative function to show that conveying that function represents the meaning of the construction. Attention to meaning necessarily entails attention to form, because students need to have access to the proper form in order to convey the intended meaning.” (Achard 2008 : 449-450)

These issues spurred my interest in Cognitive Linguistics (hereafter CL). The basis of CL is that all elements of language are experientially founded upon meaning which is structured and organized. CL is continually proving the linguistic mechanism to be one based on general cognitive processes. This is a fundamental and important argument. If, as CL claims, language is part of our overall cognitive make-up, then we must define what and how we learn before we can target language learning specifically. CL has been collecting evidence from contemporary research in neurobiology, cognitive psychology, philosophy, education, and computer science. It has been fairly successful in accounting for the idiosyncrasies of native production with its ‘ungrammatical’ and seemingly ‘chaotic’ properties. “Compared to other approaches, cognitive linguistics offers an account of language structure that—just from the linguistic standpoint—is arguably more comprehensive, revealing, and descriptively adequate.” (Langacker 2002 : 66) Cognition, the act of understanding, defines how we make our world meaningful and is a logical avenue of exploration when trying to demystify the amazing feat

of first or second language acquisition. Furthermore, looking at how we acquire a first language affords us insights into our understanding of second language acquisition (SLA), not that these are completely parallel in their details, but that the basic processes involved with their uptake must be fundamentally organic. Not until very recently, however, have some select few begun to apply these CL concepts to Second Language Acquisition research, and even a rarer few have provided practical applications of this in the classroom. Although CL-SLA researchers often hint at the usefulness of their findings in the classroom, they also too often leave the ‘messy classroom stuff’ to the teachers with which to experiment, creating an appreciative ‘time lag’ between theory and practice at best ; at worst, cynical skepticism of the other. My motivation for the present discussion is to simplify and provide easily digestible nuggets of CL ideas that can be readily used in the classroom. Being one who appreciates a clean and neat theory but who is also a full-time teacher of English, I am constantly on the lookout for possible ways to build bridges that can span the theory-practice chasm. Because CL is a relatively young and growing field (in depth as well as breadth), I will limit the scope of this paper to particular ideas of CL that I consider most readily applicable to EFL classroom environments. Furthermore, theoretical explanations will be pared to their bare necessities ; they are long, sometimes cumbersome and too numerous for a proper description at this time. They can be further explored by the reader at his leisure using the references below. I have underlined CL-specific vocabulary in order to make it easier for the reader to further research. It is my hope that the referential benefits to the researcher will outweigh the deficit in readability.

## Part II : Cognitive Maps, Construal, and Prototypes

A cognitive map (also meronymic chart (Holme, 2009) is a representation of relations between things. The simplest kinds of cognitive maps relate objects in a field ; i.e., types of canine, types of languages, types of pastry in a New York City deli, etc. These are conceptualized in a way that uses symbols to express what we understand. A symbol is simply a way for a group of people (a culture, for example) to share what they know through common representations, such as an alphabetical or ideographic system for language, a numerical system for mathematics, a musical notation system, etc. Lines and other graphic devices are used to show relationships between these symbolic representations of schematic conceptualizations (see also radial network). Figure 1 shows a cognitive map for types of canine. For the English classroom, the purpose is not to teach students everything there is to know about dogs, but to identify, connect, expand, and personalize related linguistic and conceptual information so that it may be used to make and convey meaning. (Morimoto and Loewan, 2007) We make use of information as a point of reference from and for our life experiences and vice-versa (embodiment). So when I talk about dogs, consciously or unconsciously I conceptually relate it to everything I know and feel about dogs (encyclopedic information, inheritance) as well as my proto-linguistic idea of what being ‘a dog’ means (prototype theory).

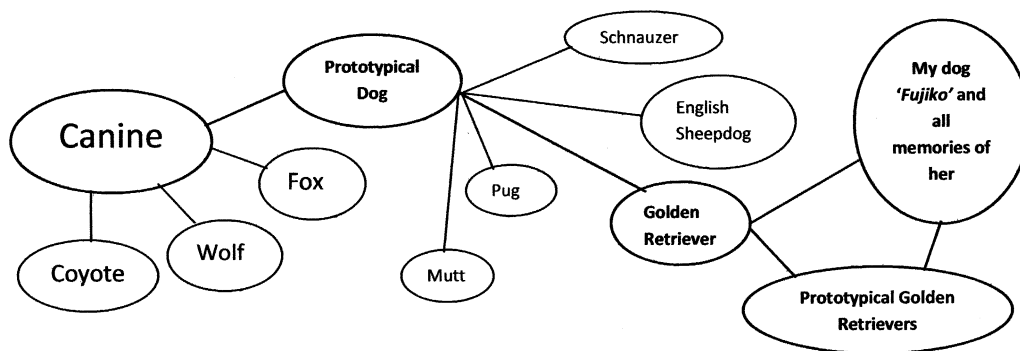


Figure 1. Types of Canine

We can talk neurologically of nerve synapses ‘firing’ or communicating with other nerves through dendrite branches and axons, or we can talk of similar systems on a more abstract, conceptual level (as in the above representation). Each new piece of information needs to be connected or ‘hooked up’ with another word, emotion, image, idea, sound, etc. or it will soon be forgotten. The more connections an item has and the more viable it is, the more entrenched it will become (uptake), and thus be available for retrieval and use (‘thinking for speaking’). In a CL classroom environment, the L2 teacher’s job is to help learners build L2 linguistic connections in an orderly and memorable fashion *with or without* the assistance of the L1 (Unified Competition Model.)

Students do not have the luxury of time, a nurturing family environment, natural input strength, nor the speed of cognitive development that first language learners do, and so attention must be paid to form as well as function (attentional processing (Cognitive Psychology), explicit vs. implicit learning (SLA). “If the aim of language teaching is to help rich networks to grow in the learners’ minds, the benefits of explicit teaching are very clear. On the one hand, it compensates for the rich input that an L2 learner lacks by guiding the learner to accurate generalizations; and, on the other hand, it provides the richly varied range of experiences that a learner needs to embed each new word in a distinct and rich network” (Hudson 2008 : 110, *my underscore*.) We also need to account for the ‘wonderfully chaotic’ stuff of actual native language usage (Usage-based theory). Corpus data gathered from native use has shown the inadequacies of strictly prescriptive or purely theoretical accounts of language. If the students’ goal is to engage with the living language, they need to know what native speakers are doing with that language. “By teaching usage, and thus placing the students in the very set of circumstances that motivates the native’s choices, the instructor enables them to fully exercise their own growing expressivity in the target language.” (Achar 2008 : 452)

In any discussion of native language usage, the very real and everyday use of metaphor and polysemy in language needs clarification and instruction. The kind of metaphor referred to here is not only the literary kind, but a broader, more widely-used phenomenon. “The essence

of metaphor is understanding and experiencing one kind of thing in terms of another.” (Lakoff 1980 : 5) In English, when we ‘climb the ladder of success’, ‘move up in our career’, ‘live high on the hog’, and ‘go up to heaven’ we are metaphorically conceptualizing GOOD IS UP. Things that are UP have positive attributes, and things that are DOWN have negative attributes, because we metaphorically conceive BAD IS DOWN ; ‘down in the dumps’, ‘fallen from grace’, ‘under the weather’ etc. Our way of thinking and using language is represented in this metaphorical conception. “The result is that metaphor (that is, cross-domain mapping) is absolutely central to ordinary natural language semantics…” (Lakoff 2006 : 186)

Recent neurological research has discovered a new kind of ‘mirror neuron’ in the brain that imitates, or mirrors, the outside world within our own brains. Research on monkeys shows that the neurons in the brain responsible for eating fired exactly the same way when only watching a human eat… it was as if the monkeys were actually eating. “With the ability to mimic also comes the sense of how one thing can resemble another. We learn to see similarities, and from this there emerges the concepts of simile and metaphor. The whole notion of symbolism rises from our ability to see one thing represented or reflected in another.” (Hamilton, 2009 : 45) And so conceptualizing the world in terms of metaphor may not only be an abstract mental activity but a result of neurological mechanisms hardwired into the brain.

Polysemous words have multiple meanings. Compare ‘your dog’ (meaning canine or sausage (i.e., hot dog), ‘you’re a dog’ (a person of low values) and ‘your dogs’, (meaning canines, feet, or sausages). These are phonologically similar and very difficult to decipher for an L2 learner in naturally occurring speech. Although some polysemy may be coincidence, most may be explained historically or culturally by meanings extended through prototypical and schematic frameworks. (Morimoto and Loewan 2007, Talyor, J. 2008, Geeraerts, D. 2006)

### **Classroom Lesson 1 : Cognitive Maps**

1. Choose a topic that is (preferably) relevant to the students’ lives ; hobbies, food, pets, fashion, or a recent textbook reading topic, etc…
2. A large piece of paper is given to each student. In smaller classes or with younger learners, colored pencils can be handed out to further differentiate each item entry.
3. Each student creates a cognitive map as in Figure 1 above, expanding detailed and personal information on the paper. The teacher gives help and advice when necessary. Students may be encouraged to include small sketches along with their entries (where possible) to further increase network activity for each entry.
4. Students form pairs or groups of three. For the communicative part of the lesson, students use their maps as ‘ice breakers’. (It is assumed here that basic question and answer competence is already part of the learner’s linguistic repertoire, but if not, then introductory lessons may be required.) Students show each other their maps and ask questions about items. (Explicit focus on form may also be included here, e.g., interrogative usage) For example ;

Student 1 : (looking at the map of student #2) : “Who is “Fujiko” (the entry on the right side of the map above)

Student #2 : “Oh, Fujiko was the name of my dog. She was a Golden Retriever who loved to take long walks in the woods and chase balls in the park.

Student #1 : What is a Golden Retriever ?

Student #2 : A Golden Retriever is a type of large dog whose fur is long. The color is usually gold!

Student #1 : “Oh, I see! Fujiko is a funny name for a dog! How did you name her?”

Student #2 : Etc...

5. Study of idioms, metaphor, and phrasal verbs may also be enlightening and fun using this kind of map. Calling someone ‘a dog’, ‘a fox’ or ‘a wolf’ all have various meanings in English ; “He’s a wolf in sheep’s clothing!” does not flatter the subject (nor the wolf !); “a hungry boy ‘wolfed down’ his lunch” is certainly different from “a hungry boy “sheepishly’ ate his lunch” ; someone being called “a mutt’ may be a slur of genetic inheritance, a person being ‘dogged by the tax man’ is in trouble, a woman who is called ‘foxy’ is either being complimented (although, perhaps, not in the way she prefers!), business-savvy or lacking transparency.

All of the above may be worked through during a class lesson, reinforcing semantic network connections among and across constructs and categories. Write the idiom, metaphor, or phrasal verb on the board and have students guess what that would look like (a person being ‘a dog’ may look something like the Sphinx, etc.) Furthermore, a separate cognitive map may be drawn outlining the senses of a particular node and its relations. An amusing way to help students create connections to the L2 is by having them draw pictures showing the literal meanings some of the more concrete items in the map. (He’s being dogged by the tax man ; She’s foxy ; Those boys are a pack of wolves ; The sheepish boy wolfed down his lunch, etc.)

6. For homework or extended class work : Students can write a short paragraph using the most expanded relations from their cognitive maps as ‘outline guides’. The cognitive maps will help with logical progression of written English discourse. This may also be a good time to review or introduce further morpho-syntactic structure or cultural themes (Dogs are considered dirty and unfit to keep as pets in traditional Arab culture ; dogs as a source of protein may be another interesting topic worth exploring, for example.)

\*Up the Ante (for more advanced learners) : Prototype categories are also interesting using cognitive maps. Have students look at the Prototypical Dog entry and ask students to list (either individually, in groups, or as a class) the properties of ‘dog’ (as compared to a wolf or fox or cat, etc.) Properties such as ‘living among humans’, ‘being pets’ ‘being four-legged’ ‘having a tail” may reveal how fuzzy and culturally

sensitive some prototype categories can be!

### Part III: Image Schema

In a study of polysemous words and their uptake with Japanese high school students learning English, Morimoto and Loewen tested the effectiveness of using ‘image-schema-based instruction’ (ISBI) to teach students the meanings of the words ‘break’ and ‘over’. The quasi-study was very small and although the results were not conclusive, this type of instruction has vast potential. The method “can be defined as a form of vocabulary instruction in which the process of learning a word is mediated by the use of image-schema. The aim of ISBI is not to teach various senses of a given word exhaustively but to provide learners with a basis on which they can effectively process the various meanings in subsequent input.” (2007: 351) This image schema is the proto-linguistic concept which grounds different senses of a lexis or phrase in a schematic theme. In any explanation of image-schema, the concepts of profile-base, figure-ground, and landmark-trajectory are fundamental. An extremely simplified account of these may be understood by relating them to schematic abstractions of subject and object, or prominence within a domain. (Langacker, 2002) It is important to remember that these are abstract and schematic and not concrete images or pictures formed of some ‘things’. Students (and teachers) need not use these CL specific terms; perhaps background and foreground, stage and actor, scenery and tourist, or any other terminology may be substituted that captures the overall similarity of relationship. Let’s take a look at what this is by exploring it in the classroom.

#### Classroom Lesson 2: Image-schema

Using the same kind of cognitive map as above, different senses of a word or phrase can be visually explained. The senses of meaning are very difficult for a second language learner to grasp and productively use, and this exercise helps dissect various image-schema relations an item may have.

In the following lesson, the various senses of the preposition *over* are studied.

1. Ask students to call out example sentences using the preposition of focus (*over*).
2. On the board, create a cognitive map with the student examples (writing the whole sentence or phrase in the circles, if possible.) Link similar senses of each example with a solid line and other senses with dotted lines.
3. Make a list with as many of senses of *over* as possible and write these on the board.

Consider the following:

The painting is *over* the mantle.

The plane is flying *over* the hill.

Sam is walking *over* the hill.

Sam lives *over* the hill.

Sam turned the page *over*.

Sam turned *over*.

She spread the tablecloth *over* the table.

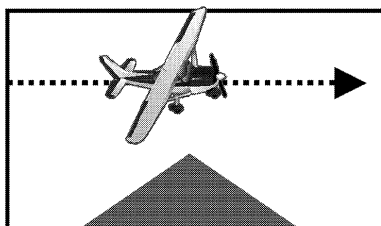
The guards were posted all *over* the hill.

The play is *over*.

Do it *over*, but don't *overdo* it.

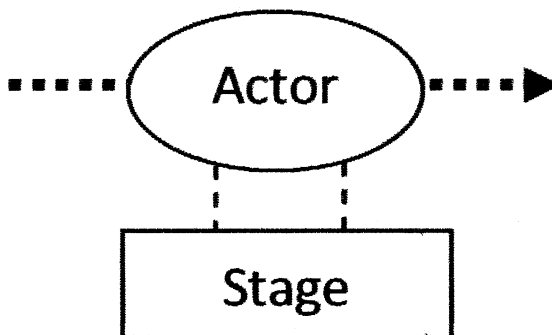
(Brugman and Lakoff, 2006 : 112)

Ask students to draw a very simple picture of any of the more concrete sentences, for example,



'The plane is flying over the hill.'

4. On the board, draw the corresponding image-schema : (ibid., *terms modified*)



5. Ask students to make 5 more sentences of similar types for this schema. In small classes and/or with younger learners, the use of props (toys, cardboard cutouts, etc.) or bodily movements to act out the scenes can help embed the meanings into the learner's semantic network. (Holme, 2009) In pairs or groups of three, ask students to create short scenarios where the senses of *over* can be used **meaningfully**.
6. As a follow-up discussion or lesson, compare and contrast how the native language(s) of the students represent the above image-schema meanings. There are sometimes dramatic differences between languages, especially those languages that do not have

prepositions. Awareness of these similarities and differences may help learners avoid negative transfer errors (SLA).

The above lesson can and should be extended to cover the three other senses of *over*, namely, 'again, 'finished', and 'in some other place'. (Tyler and Evans: 4) Because the four senses of *over* are systematically related in a polysemous network, (ibid.) they should all be taught in a relatively close time period in order for students to be able to analyze and formulate relationships between these senses thereby strengthening their semantic connections to them. It may have become obvious that teacher preparation and study of the four appropriate image-schema and their senses is necessary for the above activities. However, compare this to the traditional alternative. Yates (1999) lists thirteen meanings for *over*, not including phrasal verbs, in which he lists fourteen. Kimber (2006) lists a whopping 47 different meanings for *over*! It's no wonder, "Prepositions are notoriously difficult to learn. Long after ESL/EFL students have achieved a high level of proficiency in English, they still struggle with prepositions." (Celce-Murcia & Larson-Freeman: 401) And so it makes cognitive economical sense to systematize related senses of terms by way of more abstract conditions sometimes called proto-scenes, defined by Tyler and Evans as an "abstracted mental representation of a primary sense..." (2003: 65) In fact, they argue that all of the senses of *over* have one proto-scene (the trajectory (TR) being located higher than the landmark (L) (ibid: 64)) from which all other senses are derived. The other senses can then be systematically traced in the classroom, allowing students a more analytical framework (compared to rote memorization) from which to correctly interpret native speaker usage and assist in their own output.

#### Part IV : Conclusion

In most EFL classrooms, 'focus on form' of the target language is thought to be 'the meat and potatoes' of language learning. Looking deeper into a given form and its basis in intention, meaning and symbolic linguistic representation has become one of the leading linguistic and pedagogical research topics of our time. These meanings and intentions grow out of our personal experience, from the time of our birth to the present moment. How we perceive our surrounding world, our reactions to these perceptions, and how we convey these to others is symbolically represented and given form through language. Our knowledge of the world is stored in our bodies and minds, interacting with and interpreting our present moments to create some semblance of meaning and continuity (Grossman, 2009). Both lexis and grammar are unveiled as comprising different aspects of meaning, and can be a much more natural and effective approach to learning vocabulary and grammar. "Lexicon and grammar form a continuum of symbolic elements. Like lexicon, grammar provides for the structuring of conceptual content, and is thus imagic in character. When we use a particular construction or grammatical morpheme, we thereby select a particular image to structure the conceived situation for communicative purposes. Because languages differ in their grammatical struc-



ture, they differ in the imagery that speakers employ when conforming to linguistic convention.” (Langacker, 2002 : 12)

Teaching goals must also be in line with the concept of language as a representational tool for the conveyance of meaning. With the kind of assistance that supports ‘language as meaning’, students will be able to analyze and understand their own various linguistic and affective connections to their inner dialogues and these insights will help the L2 learner in his goal towards a closer approximation of native competence. “As has been shown often enough, learning by insight is much more effective than mere rote learning.” (Dirven, R., Niemeier, S. & Putz, M., 2001 : xv)

To date, there are no readily available classroom textbooks or workbooks (I am aware of) that specifically work through a cognitive linguistics framework, although much to his credit, Holme (2009) provides a variety of example lessons that can be a useful resource for a more full-fledged teaching plan and syllabus design. It is now up to teachers and SLA researchers to join together in that effort to create practical, accessible, classroom-friendly materials. It is my hope that continued research will add to the timely creation of such a necessary pedagogical tool.

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