

Applied Cognitive Linguistics: What Every Language Practitioner Should Know

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Abstract

The goal of this paper is twofold. First, to discuss the basics of Cognitive Science/Linguistics and second, to acknowledge its applications to second language pedagogy within the framework of Applied Cognitive Linguistics. Cognitive Linguistics is a theory of language which explains language learning in terms of communication, cognition and their relation to physical, spatial and social world. Ample research data suggest that a cognitive linguistic-based conceptualization of an L2 moves both language instructors and learners away from traditional distinctions, such as the lexicon-grammar dichotomy and highlight the systematicity that underlies various language structures. In this regard, introducing a cognitive linguistic-based instruction gives rise to and redefines new/current concepts and teaching techniques, such as conceptual fluency, motivation, figurative, metaphorical and idiomatic competence respectively, metaphorical density and intelligence, conceptual syllabus and pedagogical grammar. These concepts and their content, taken altogether, are expected to facilitate L2 classroom practice.

Key-words: Applied Cognitive Linguistics, motivation, conceptual fluency, conceptual syllabus, pedagogical grammar

1. Introduction

Traditionally, language has been understood as an autonomous system, consisting of independent subcomponents, such as morphology, syntax, semantics and the lexicon. In addition, language was deemed to be separate from other cognitive and social abilities. On this account, language is acquired, it is independent of the many ways that human beings experience and interact with the external world and non literal uses are marginal and peripheral. With reference to educational practice, the second language (henceforth L2) learner is expected to learn words separately, master grammar rules and rely on rote memorization for the exceptions that are abundant in language (Verspoor, 2008). Cognitive scientists challenged these well entrenched views on language and mind and offered a radically different perspective (Verspoor, 2008). The cognitive linguistic approach is more humanistic and holistic because it holds that language is an integral component of human cognition (Tyler, 2012). Lakoff & Johnson (1999) summarize the major findings of Cognitive Science as follows, firstly, the mind is embodied, secondly, thought is mostly unconscious and thirdly, abstracts concepts are mainly metaphorical.

First, the idea of embodied cognition holds that cognition is shaped by the physical properties of the world we inhabit (Scorrolli, 2014). That is to say, cognition is influenced by the body's interactions with the environment and the nature of the human body (Wilson, 2002) or relies on the sensorimotor simulations of actions, events and states that become evident through language (Kaschak et al., 2014). A related concept to the embodied mind is categorization. Categorization refers to the cognitive ability of forming categories based on perceived similarity (Taylor, 2003). The ability to categorize objects and states is evident in all humans regardless of their home place and the culture they share.

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As a matter of fact, categorization makes meaningful the surrounding environment (Kövecses, 2006). Lakoff & Johnson (1999) argue that categorization is a consequence of the way human cognition is embodied. Hence, categories are an essential aspect of human experience (Lakoff & Johnson, 1999). Categorization is an inevitable and an unconscious process (Lakoff, 1987). Unlike other language theories, Cognitive Linguistics claims that all linguistic units, such as words and morphemes are in essence distinct, but related categories organized around a central meaning. Therefore, a category, such as a word is a semantic network (Verspoor & Tyler, 2008).

Second, the cognitive unconscious refers to the finding that most of the human thought operates at the unconscious level. In other words, thought operates beneath the level of cognitive awareness so fast and automatically that it can not be grasped and focused on (Lakoff & Johnson, 1999). Therefore, humans are not able to fully access the interior of their minds. The cognitive unconscious is structured and includes not only mental, automatic operations, but also general knowledge and beliefs, that is, all of the human implicit knowledge.

Third, abstract concepts are mainly metaphorical. On the cognitive linguistic view, concepts are neural structures that allow humans to form and acquire their categories and reason about them. Moreover, concepts do not merely reflect the surrounding world, but they are shaped by the human physiology. Abstract concepts are being realized by (conceptual) metaphors (Lakoff & Johnson, 1999). The traditional concept of metaphor holds that it is a figure of speech, a property of words and is used for artistic/literary purposes by talented speakers (Kövecses, 2002). Lakoff & Johnson (1980/2003) challenged these ideas and introduced the Conceptual Metaphor Theory. According to this approach metaphor is conceptual, it is not based on similarity and it is used effortlessly in ordinary communication. Metaphor is a phenomenon that occurs throughout the whole range of human communication and all genres (Knowles & Moon, 2006) and a cognitive process which serves as the basis for the understanding of more abstract concepts in terms of more concrete domains (Grady, 1999). Metaphor serves many functions, some of which include explanation, textual structuring, ideology, problem solving, humor and memorability and informativeness enhancement (Richardt, 2005).

Additionally to the above mentioned fundamental propositions, Gießler (2012) discusses the notion of construal. Construal refers to a human's ability to approach a particular situation in many different ways. That is, the words a speaker uses to describe a particular phenomenon can never offer a pure objective view of this phenomenon, because pure objectivity can not exist in ordinary communication. In this way, some aspects of a state will be more noticeable than others (Littlemore, 2009). These different ways of taking various perspectives on a scene constitute different ways of acquiring concepts (Lee, 2001). Talmy (2000a, 2000b) suggests that each language provides speakers with a wide range of alternative representations in order to understand an event. These alternative representations offer different construals on a particular phenomenon (Langacker, 1987). Sometimes these different construals are related to cultural differences and are a consequence of cross-cultural variation in conceptualization (Gießler, 2012).

2. Applied Cognitive Linguistics

2.1 Theoretical background

Radical shifts in theory of language, inevitably affect teaching practices (MacArthur, 2010). As a matter of fact, the quality and quantity of published studies and data led many researchers to recognize a distinct, new subfield, Applied Cognitive Linguistics (e.g. Biłak, 2011; Niemeier, 2005; Pütz et al., 2001).

Existing research strongly suggests that Cognitive Linguistics can enhance L2 learning and teaching (e.g. Beréndi et al., 2008; Boers, 2013; Boers & Lindstromberg, 2008; Kövecses & Szabó, 1996; Littlemore, 2009; Velasco Sacristán, 2005). The positive impact of Applied Cognitive Linguistics on L2 learning and teaching is closely associated with motivation. For Gibbs (2006) and Niemeier (2005), language practitioners should aim at explaining and highlighting the motivation of regularities and patterns in language behavior and use. Radden & Panther (2004) argue that a linguistic unit is motivated if some of its properties are determined by a linguistic source and factors independent of language. A few years later, the above approach was slightly modified as follows:

“A linguistic sign (target) is motivated to the extent that some of its properties are shaped by a linguistic or non-linguistic source and language-independent factors” (Panther & Radden, 2011, p. 9). Radden & Panther (2004) propose a classification of motivation based on the involved processes. Hence, there are the meaning-meaning connections, the form-meaning connections and finally the form-form connections. Alternatively, the explanation of meaning-meaning relations is referred to as semantic motivation, whereas the study of the form connections is called phonological motivation (Boers et al., 2006).

In the case of meaning-meaning connections the most studied phenomena are polysemy and figurative idioms (Boers & Lindstromberg, 2006). In polysemy, peripheral senses are extended through image-schema processes or through metaphor and metonymy. Prepositions and phrasal verbs being highly polysemous have served as the starting points for studying semantic motivation (Boers & Lindstromberg, 2006). In a pedagogical context, Rudzka-Ostyn (2003) and Taylor (1988) claimed that it will be useful to compare prepositions across languages so as to identify potential difficulties related to L1 transfer. In addition, Boers & Demecheleer (1998) concluded that a cognitive semantic analysis can facilitate comprehension of spatial prepositions, such as *behind*. Figurative or imageable idioms are those that are associated with conventional, mainly unconscious images (Boers & Demecheleer, 2001; Lakoff, 1987). Traditionally, idioms have been treated as semantically arbitrary and non-decomposable (Weinreich, 1969). When it comes to L2 instruction, idiomaticity is taken to be an integral component of a learners' overall communicative competence (e.g. Irujo, 1986; Yorio, 1980). It has been found that many idioms are instantiations of underlying conceptual metaphors (and/or conceptual metonymies). In L2 teaching terms, by providing learners with motivation for idioms it will be easier for them to learn idioms faster and achieve longer retention in their memory (Kövecses, 2002).

While semantic motivation sufficiently explains the meanings of various linguistic units, it does not explain the form connection, that is the form or lexical makeup (Boers et al., 2006). Although, Radden & Panther (2004) do not offer examples of this type of motivation, Boers & Lindstromberg (2006) include processes, such as alliteration and rhyme which have been found to motivate the lexical selection in an enormous number of compounds and multiword expressions, such as collocations and idioms. Finally, the category of form-meaning relations includes phenomena, such as onomatopoeia and phones themes. Onomatopoeia refers to the imitation of natural sounds (Danesi, 2004). In the case of phonesthemes, the meaning of various words derives partly from their phonological features (e.g. /sp/ as an initial combination in English words with negative connotations “spam, spit, spew”) (Boers & Lindstromberg, 2006).

Boers & Lindstromberg (2006) suggest that the notion of motivation can help learners reach a deeper (i.e. cognitive) understanding of the various linguistic units and activate many semantic networks. Boers et al. (2006) argue that presenting meaning-meaning, form-form and form-meaning connections as motivated will be beneficial for long term retention in memory. It is argued that familiarizing learners with motivated structures can foster their pragmatic and cultural awareness (Boers & Lindstromberg, 2006). Given that many linguistic units are instantiations of conceptual metaphors (and/or conceptual metonymies), learners will have the opportunity to comprehend texts and recognize persuasive rhetoric (Boers & Lindstromberg, 2006).

Within an applied cognitive linguistic approach, the notion of construal can explain the differences among languages regarding the different ways of understanding an event. In different languages, the same events or phenomena are encoded in alternate ways, which means that L2 acquisition is related to learning phenomena in a different way, both linguistically and conceptually. An inability to construe phenomena in the new language sufficiently may result in unnatural-sounding language (Littlemore, 2009). Following Kövecses (2006), an L2 learner may come up with the following construal cases. Firstly, the same linguistic expressions may be used to describe the various aspects of the same situation. Secondly, different linguistic expressions may be used to refer to different aspects of the same event. Lastly, the same linguistic expressions may be used to refer to radically different situations in the world. Littlemore (2009) suggests that explicit teaching of construal patterns between learners' L1 and L2 will accelerate awareness of the target language's construal systems. This teaching approach may take the form of diagrams, where learners will have the opportunity to see how the target language construes a particular linguistic unit in comparison with their L1.

2.2 Teaching applications

Introducing cognitive linguistic insights to L2 classroom can provide solutions to certain teaching issues (Bielak, 2011). In particular, a popular debate in L2 instruction is the idea that language can be taught through grammar rules and their accompanying exceptions or through formulaic language. The cognitive linguistic answer to this issue is the notion of radial categories (Littlemore, 2009). Radial categories are networks of members organized with respect to a prototype example (Evans, 2007) and shed light on how certain concepts relate to each other in the minds of the speakers of a given language (Lee, 2001). For example, the category *mother* is structured around a certain number of subcategories, such as, *birth mother*, *foster mother* and so on (Lakoff, 1987).

According to Taylor (2002) the most basic senses of a linguistic unit lie at the center of a category, whereas the most figurative ones radiate out towards the edge. Although many basic senses are similar across languages, figurative senses tend to be highly dissimilar and culture specific (Littlemore, 2009).

Empirical evidence suggests that even advanced L2 learners tend to avoid figurative senses and stick to more prototypical ones (Alejo, 2008). Maldonado (2008) argues that radial categories apply to all language areas and are very useful for the peripheral rules of a given language that are often more difficult for L2 learners. Thus, instead of presenting grammar rules as fixed categories with many exceptions it may be more fruitful to present them as flexible radial categories which exhibit substantial variation subject to context. Introducing a radial category approach to L2 teaching will familiarize learners with the systematic nature of language on the one hand and on the other hand with the varying flexibility according to context. Given that the various linguistic units (e.g. words, grammar, morphemes) interact, it becomes clear that they can not be taught interdependently of one another (Littlemore, 2009).

Adopting a cognitive linguistic approach to foreign language pedagogy, inevitably calls for a reconsideration of L2 teaching goals, techniques and material content. Hence, placing concepts at the heart of L2 teaching modifies its traditional goal, which is the development of a learner's communicative competence. In this regard, the teaching goal of an applied cognitive linguistic oriented instruction should be the development of what Danesi (1993, 1995) calls conceptual fluency. Conceptual fluency refers to a learner's ability to know how the target language encodes concepts on the basis of metaphorical thinking (Danesi, 1995). Danesi (1995, 2008) and Danesi & Grieve (2010) argue that the term conceptual fluency originated from the observation that even though L2 learners exhibit a high degree of grammatical accuracy they lack the ability to use L2 concepts efficiently and appropriately. Conceptual fluency is as important as grammatical and communicative knowledge (Danesi, 2000). Given that during second language acquisition not only the two languages are in contact, but also their conceptual systems as well, Danesi (2008) suggests that proficiency in an L2 should be formulated as the ability to express oneself in the target language while relying on the conceptual system of the target culture, rather than using correctly the formal aspects of the target language, but utilizing learner's native conceptual system.

Failure to use L2 concepts efficiently and appropriately will result in conceptual errors (Danesi & Grieve, 2010). When L2 learners utilize a source domain of their mother tongue that is different in the target language so as to convey an abstract concept in the target language they make conceptual errors (Danesi, 2008). Therefore, a conceptual error is a structure that linguistically relies on wording from the target language, but conceptually relies heavily on learner's mother tongue (Danesi & Grieve, 2010).

It is suggested that conceptual fluency can be developed through figurative competence. In brief, figurative competence is defined as "the ability to deal with figurative language" (Levorato, 1993, p. 104). Figurative language is not a unified category but includes various figures, such as metaphors, idioms, irony, hyperbole, irony and so on (Roberts & Kreuz, 1994). Moreover, figurative language is ubiquitous in ordinary communication. The pervasiveness of figurative language is shown in the estimates regarding the number of figurative expressions that are uttered by an average speaker on a daily basis. Hence, it has been demonstrated that a speaker produces approximately 4.7 million novel and 21.4 million conventional metaphors over a 60-year lifespan (Pollio et al., 1977). Following Levorato & Cacciari (1992, 1995) figurative competence involves four main linguistic skills. Firstly, the ability to grasp the dominant, peripheral and polysemous meanings of a word and also the ability to perceive its syntagmatic and paradigmatic relations. Secondly, the ability to go beyond a purely literal-referential strategy.

Thirdly, the ability to use contextual information in order to create new figures of speech, and finally, the ability to understand the figurative uses of a linguistic structure. Figurative competence is not homogenous, but consists of (at least) two essential components. These are metaphorical/metaphoric (the two terms will be used interchangeably throughout the paper) and idiomatic competence respectively.

Metaphoric competence is broadly defined as the ability to understand and produce metaphors (Danesi, 1986, 1992). Littlemore (2001a) claims that metaphoric competence consists of four components, namely the ability to create new metaphors (originality in metaphor production), the ability to find more than one accepted meanings for a given metaphor, the ability to find more than one accepted meanings for a novel metaphor and the ability to find meaning in metaphor rapidly.

The second component of figurative competence is idiomatic competence. This term refers to the ability to comprehend and produce idioms accurately and appropriately in a wide range of contexts and includes both linguistic and pragmatic knowledge (Liontas, 2015). There is a large body of research evidence suggesting that figurative competence is an important aspect of L2 fluency (e.g. Boers, 2000; Cieślicka, 2015; Littlemore & Low, 2006a; Yorio, 1989). Therefore, an inability to use figurative language accurately subject to context is the major reason why L2 learners do not attain native-like fluency (Kecskes & Papp, 2000a).

Given the importance of figurative competence in a learner's communicative ability, one could expect that this type of competence would have been an integral component of the major models of communicative competence. However, only in Bachman's (1990) model the ability to comprehend figures of speech is categorized under sociolinguistic competence. Nevertheless, Littlemore & Low (2006b) showed extensively that metaphoric competence plays a crucial role in all areas of communicative competence. Similarly, Liontas (2015) classified idiomatic competence under sociolinguistic competence, but there is no reason not to assume that, as with metaphoric competence, idiomatic competence is an integral aspect of all components of communicative language ability.

Research findings indicate that developing figurative competence in an L2 is a challenging task and a major stumbling block for L2 learners. While for native speakers, figurative language is used effortlessly and usually unconsciously, when it comes to L2 learners the situation becomes more challenging (Boers, 2000; Cieślicka, 2015). That is, figurative language causes additional difficulties to L2 learners in cultural-related settings and thus affects their pragmalinguistic and sociopragmatic competence (Bromberek-Dyzman & Ewert, 2010). In this regard, Steinel et al. (2007) found that L2 learners' idiomatic competence is significantly low with regard to their overall vocabulary knowledge, whereas Howarth (1998) concluded that there is a lack of awareness of the true importance of collocations (and phraseology in general) in second language instruction. Additionally, Cieślicka (2010) demonstrated that even highly proficient L2 learners tend to rely on literal interpretation for unknown idiomatic expressions in the target language. In the same vein, Kathpalia & Carmel (2011) analyzed student writing so as to identify the type of problems L2 writers have with collocations and to convince teachers to promote the development of metaphorical competence among L2 learners. Their findings indicated that although learners attempt to use various metaphors, such as grammatical and textual in their texts, these tend to be unidiomatic.

Littlemore (2009) suggests that these recurrent findings can be attributed to learners' low attention to metaphorical uses of language, to lack of figurative language availability in learners' active vocabulary and to the fact that figurative language relies on marked phraseology contrary to the most basic senses of a word which they usually do not have marked phraseology. Similarly, Niemeier (2017) argues that L2 learners do not have developed the same cultural and social awareness as native speakers. Moreover, a less advanced L2 learner will be less conceptually fluent and thus produce speech that will result in communication problems. A further explanation for the inability of L2 learners to use effectively figurative language may be related to the place of figurative language in L2 pedagogy and the accompanying suggestions for the appropriate proficiency level and learners' age.

Boers (2004) claims that the most promising proficiency level for introducing a cognitive linguistic oriented instruction is intermediate. Beginners lack the necessary lexical knowledge to engage in metaphor awareness activities, whereas advanced learners may be more hesitant to take risks and try out the meanings of unknown figurative expressions whose correctness in the target language they are not sure of. However, Littlemore et al. (2014) suggest that familiarization with figurative language should start at CEFR (i.e. Common European Framework of Reference for Languages) level A2 onwards. With that said, Littlemore et al. (2014) introduce certain descriptors for metaphor use per proficiency level. At A2, learners should be able to use limited number of metaphors. At B1, in addition to A2 skills, learners should be able to use a limited number of conventional metaphors. At B2, in addition to conventional metaphorical expressions, learners should be able to make use of novel metaphors. At C1, learners should be able to produce direct, indirect and personification metaphors along with appropriate phraseology for various functions, such as persuasion and affect expression. At C2 learners should be able to use a wide range of metaphors and related phraseology and collocations in many contexts.

With respect to age, Vosniadou (1987) suggests that children are able to speak figuratively from a very early age. Therefore, the competence to use figurative language is not limited to adults only. In this regard, Piquer Píriz (2008) carried out a study with young EFL learners in order to examine the applicability of cognitive linguistic approach to metaphor comprehension. Her findings suggest that even younger children (9- and 11-year-olds) can benefit from an applied cognitive linguistic approach to L2 figurative language instruction.

However, we should bear in mind that not all learners may be susceptible to Applied Cognitive Linguistics' instructional methods unless its benefits for learning figurative vocabulary are made sufficiently straightforward (Boers et al., 2006). Research data suggests that raising learners' metaphor awareness can foster their ability to work with unknown figurative vocabulary (e.g. Boers, 1999). Therefore, the obstacles L2 learners face when copying with figurative language could be remedied if they are asked to work with various activities whose main objectives may be broken down as follows. First, learners should become aware of the fact that metaphor is ubiquitous in ordinary communication. A sample activity is to have learners define the differences between two abstract concepts, such as friendship and love. Second, learners should recognize the underlying metaphoric themes (i.e. conceptual metaphors) behind various figurative expressions. A sample activity would be to have learners read well chosen texts and classify metaphors and idioms according to more general metaphoric themes. Third, learners should be familiar with the non-arbitrary nature of many metaphors and idioms. A sample activity is to have them list the symptoms of an abstract concept, such as anger in order to realize their correlates in physical experience (i.e. experiential basis). Lastly, learners should be aware of possible cross-cultural and cross-linguistic differences in conceptual metaphors. A sample activity in a foreign language context is to have learners of various language backgrounds consider their own language about an abstract concept and its manifestations in everyday speech (Boers, 1999, 2000).

The above mentioned activities should not be seen as the sole means of learning and teaching figurative vocabulary, but as a complementary technique along with various other instructional approaches to teaching L2 vocabulary (Boers, 2000). Nevertheless, their applicability has been tested and an increased metaphor awareness resulting in long-term retention of the target language's vocabulary was well documented (Boers, 2000, 2013; Boers et al., 2004, 2006). Along with the applicability of the cognitive linguistic approach, these encouraging results can be attributed to other conditions as well, such as the fact that recognition of metaphoric themes (=conceptual metaphors) promotes deep level of semantic processing, which in turn enhances new vocabulary retention by increasing memory storage (Sökmen, 1997).

If the meaning of a figurative expression is not easily understood from the contextual cues, then L2 learners rely to certain (psychological) processes, which may facilitate this procedure. That is, they employ processes that are usually reserved for working out the meanings of novel figurative expressions. These processes are associative fluency, analogical reasoning and image formation (Littlemore, 2008) and are referred to as metaphoric extension strategies (Littlemore, 2002, 2004).

Associative fluency is related to a learner's ability to make a wide range of plausible interpretations when presented with a particular stimulus (Carroll, 1993). Polio and Smith (1980) claim that this technique may underlie the ability to construct many possible interpretations of a single metaphor. Analogical reasoning refers to the ability to identify all possible similarities between an unknown concept and the context in which it appears (Littlemore, 2002, 2004). Although the role of analogy is controversial, it is likely to play an important role for L2 learners than for native speakers (Littlemore, 2008). Image formation is expected to assist learners to produce and comprehend metaphors (Littlemore, 2002, 2004). For Paivio & Walsh (1993) and Arnold (1999), the generation of mental images stands as a powerful tool in metaphor understanding and longer retention for new vocabulary items. The above metaphoric extension strategies are subject to factors, such as word concreteness, context and cognitive style. Littlemore (2008) summarizing the findings of previous studies, concludes that metaphoric extension strategies are provoked by words with a high iconic background and employed by learners with an imager cognitive style. These learners are able to form relevant images, whereas learners with a verbal cognitive style are better at using context. Hence, metaphoric awareness training may be beneficial for L2 learners.

The high interest in figurative language and the importance attributed to it gave rise to various related notions, such as metaphorical intelligence, metaphorical density, idiomatic performance, idiomatic usage and idiomatic use. Littlemore (2001b) based on Gardner's (1983) Multiple Intelligence theory coined a ninth kind of intelligence, namely metaphoric intelligence. Metaphorical intelligence is deemed to be a specific skill and depends on loose analogical reasoning and divergent thinking. Analogical reasoning refers to a speaker's ability to understand new phenomena using related knowledge. On the other hand, divergent thinking is related to the generation of many equally acceptable responses for a given problem subject to quantity, variety and originality of answers (Littlemore, 2001b). Regarding the benefits that metaphorical intelligence brings to second language classroom, Littlemore (2001b) argues that it enriches language production in the target language and enhances comprehension of metaphors. Moreover, metaphorical intelligence is likely to affect the communication strategies adopted by an L2 learner, such as the metaphoric extension strategies.

Metaphorical density is an index that calculates the number of metaphorical expression in learners' written speech as a percentage of the total number of sentences (Kecskes & Papp, 2000b). The concepts related to idiomaticity are introduced by Liontas (2015). Idiomatic performance consists of linguistic and pragmatic knowledge in comprehending and producing idioms subject to contextual factors. Idiomatic usage refers to the degree L2 learners demonstrate their knowledge of idiomatic language. Finally, idiomatic use is related to a learner's ability to rely on her/his knowledge of idiomatic expressions so as to achieve effective communication in ordinary speech. An additional way that an applied cognitive linguistic approach can be incorporated into L2 pedagogy lies in the area of material design. In this regard, the notions embodied curriculum, conceptual syllabus and pedagogical grammar will be discussed. For decades and under the influence of the mind-body dualism, it was suggested that teaching is the pure transmission of ideas and that curriculum was the sum of the knowledge of various sciences (Hirst, 2010). In response to the limitations posed by teacher- and lecture-oriented environments and taking into consideration the idea that cognition is deeply rooted in physical experience, traditional teaching practice transformed into active and experience-based learning and moved toward more experiential models of teaching (Wang & Zheng, 2017; Ye, 2015).

Central to these learning environments is the design of a curriculum that engages the body and the mind (Wang & Zheng, 2017), supports the naturally arising complexity of the content, encourages collaboration and places instruction within both simulated and real-world learning contexts (Barab & Duffy, 2000). Embodied curricula seek to free instruction from the conventional manipulation of scientific content and to free human physiology from the traditional suppression of mental training (Wang & Zheng, 2017). Although the proponents of embodied curricula relate it mainly to the STEM disciplines (= Science, Technology, Engineering, Mathematics) (Abrahamson and Lindgren 2014) it is argued that its basic principles are applicable to L2 material design as well. As a matter of fact, Abrahamson & Lindgren (2014) argue that all school subjects are embodied (after having placed an emphasis on STEM disciplines).

Abrahamson & Lindgren (2014) introduce a set of guiding principles for embodied design. First, the activities embedded into the embodied curriculum should benefit from learners' perceptual senses and kinesthetic coordination to evaluate properties of stimuli and perform new actions. Tasks should range from simple ones, with a preference for figurative and iconic representations to more complex ones. Second, tasks should benefit from technology. Third, instructors should facilitate their learners to develop their perceptual and motor schemas and approach a situation in new ways by using techniques, such as physical demonstration and media technology. One of the core components of curriculum is syllabus (Mickan, 2013). A syllabus describes the goals, objectives and outcomes of a language course for a particular group of learners (Richards, 2001). Danesi (1995, 2008) and Danesi & Grieve (2010) argue that conceptual fluency can be developed through a conceptual syllabus.

In a conceptual syllabus, units will be organized around conceptual domains, such as love, time, weather, ideas, age along with grammatical (/formal) and communicative information regarding their status and functions in ordinary language use. Towards this goal, literary texts can be incorporated so as to familiarize L2 learners with narrative and aesthetic manifestations of concepts in authentic, real-world communicative situations (Danesi, 1994, 1995). Moreover, a cognitive linguistic-based language lesson should re-embed form in the imagery from which it emerged, engage L2 learners in the analysis of both form and meaning and establish a forum of usage that will foster natural communication (Holme, 2009). For Holme (2009), an L2 syllabus at the beginners' level should take into consideration the following issues. First, the need to teach L2 learners the commonest constructions in the target language, first as fixed expressions and later as variables of a particular type. Second, to teach constructions that will take learners closer to their schematic nature. Third, to highlight the embodied nature of meaning through movement and gesture and fourth to put an emphasis on imagery through analogies and pictures.

The successful design of a conceptual syllabus implies that language practitioners should become more conversant with modern theories of language and teaching techniques. And of course a conceptual syllabus should not be seen as antagonistic to different kinds of syllabi, but rather as complementary one (Danesi, 2008; Savignon, 1992). Past years have seen the publication of a few teaching materials structuring metaphors and idioms around conceptual metaphors and concepts in general (e.g. Lazar, 2003; Wright, 2002). These materials are an indicator that the tenets of (theoretical) Cognitive Linguistics are gradually introduced to mainstream L2 teaching as they grow in strength and applicability.

Lastly, Applied Cognitive Linguistics may also contribute to the design of a pedagogical grammar. A pedagogical grammar, which is different from a linguistic grammar with respect to content and presentation, offers a language description that aims at the language instructor and learner and whose fundamental purpose is to foster L2 learning and teaching. In this regard, a pedagogical grammar seeks to promote the learners' insight into the system of the target language and thus present even the arbitrary and language-specific structures as coherent and systematic by highlighting the relations among the various subsystems (Taylor, 2008).

Given the usage-based nature of Cognitive Grammar (Langacker, 2000), a cognitive linguistic-based pedagogical grammar will provide L2 learners with sufficient exposure to indicative manifestations of a given linguistic unit, that is it will familiarize them with meaningful, authentic discourse (Achard, 2004). This goal will be achieved by providing general descriptive notions, such as noun and verb and grammatical formatives, such as markers of the target language (Langacker, 2008). For example, for an L2 learner to be able to comprehend the word tall, it will be necessary to get familiar with the conceptualization of the vertical dimension symbolized by tall (Taylor 2008). For Broccias (2008), cognitive linguistic approaches to pedagogical grammar do not result in radically new theories of teaching methodology. Rather, they highlight aspects of already existing teaching methodologies, such as the teaching of grammatical structures with communicative-based tasks, the emphasis on the fact that grammatical structures are interrelated and the importance of motivation, construal and blending in shaping grammar. In this respect, he suggests that a cognitive linguistics-based pedagogical grammar should aim at raising awareness by focusing on prototypes and explicitly demonstrate that non prototypical cases may be partly motivated.

3. Conclusions

To sum up, Cognitive Linguistics view language as a system consisting of various interrelated subsystems and as a reflection of human cognition. On cognitive linguistic view, cognition is embodied and largely metaphorical. Furthermore, language is usage-based, whereas linguistic units constitute wider semantic categories of related meanings.

The continuous benefits of introducing a cognitive linguistic approach to L2 classroom practice gave rise to Applied Cognitive Linguistics. Of particular relevance to L2 pedagogy are the notions of construal, radial categories, embodiment and motivation. Applied Cognitive Linguistics places a special emphasis on motivated language use as it provides L2 instruction with a set of principles in order to explain once arbitrary and non teachable linguistic units. In this regard, Applied Cognitive Linguistics invites language practitioners to rethink traditional teaching goals. Therefore, within an applied cognitive linguistic-based conceptualization of L2, the notion of conceptual fluency serves as the major teaching goal. An L2 learner can be conceptually fluent, if s/he develops her/his figurative competence, which is not a unified construct, but rather it consists of (at least) metaphorical and idiomatic competence. Given the pervasiveness and functions of figurative language in ordinary communication, various related notions, such as metaphorical density and idiomatic performance are introduced to L2 pedagogy. Finally, research data suggest that applying cognitive linguistic insights to L2 instruction may contribute to material design. Notions, such as embodied curriculum and conceptual syllabus manifest this tendency.

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