Chapter 9
Reading Comprehension in ESL Contexts: An Applied Cognitive Semantics Perspective

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Abstract 'Cognitive semantics' is an umbrella term applied to several streams of research sharing the common premise that language and general cognition are interrelated and interdependent. Stemming from this concept are the following principles which have been found to be relevant for language pedagogy: all linguistic elements have a conceptualization dimension and thus they are 'meaningful'; all linguistic elements are abstracted from their real-life usage contexts; discourse, just like individual linguistic elements, is highly structured and rooted in usage contexts; metaphoric and metonymic concepts prevail in our thought process; and linguistic elements represent categorization in human cognition based on perceived commonalities and motivated extensions. The first part of this chapter briefly sketches out these salient principles and the second part discusses implications of these principles for reading in ESL contexts. Extending on some current cognitive semantics-based practices in other areas of pedagogy, the paper argues that cognitive semantics (CS) can facilitate an in-depth reading comprehension in ESL contexts mainly by offering tools for detailed linguistic analyses and reconstruction of meaning. The application of CS principles is also illustrated with a sample text.

Keywords Reading in ESL contexts · Applied cognitive semantics
Conceptual metaphor · Cognitive grammar

Introduction

Reading is a crucial skill for success in ESL academic contexts. Learners are often required to employ different reading strategies to achieve different goals. They read for specific details and for an overall understanding (known as 'scanning' and 'skimming' respectively), for general comprehension and information, and also

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sometimes for entertainment. Reading in academic contexts typically also involves two other important dimensions: reading for a critical understanding; and reading to acquire proficiency in second language (Grabe, 2009; Nation, 2009). When ESL learners read for a critical understanding, particularly at advanced levels, they are expected to carefully examine the choice of words/structures, understand the structure of the given text, delve deeply into the main thesis and examine evidence and arguments to form an opinion about the issue in question and integrate the given knowledge with the previous to form a global view of the topic. Reading has also been recognized as a tool to enhance proficiency. ESL learners are often directed towards use of specific structures and vocabulary items in actual discourse contexts, leading to consciousness raising and the acquisition of forms while making meaning (Ellis, 2003, 2010).[1]

This paper discusses how cognitive semantics (CS), a theory of language based on actual use of language in real-life contexts, can offer some insights for ESL reading. An attempt is made to explain how theories of the conceptual nature of language, the cognitive nature of cohesion and coherence in a discourse, prototypes and radial categories, and conceptual metaphor can enhance critical reading skills and facilitate acquisition of second-language proficiency.

The chapter is organized in the following way. First, the salient principles of CS and also some previous attempts at applying these principles into areas of pedagogy other than reading are summarized. Next possible ways that CS can enhance reading skills in ESL contexts are discussed, and the application of CS principles to a sample text is illustrated. The final section consists of concluding remarks.

Cognitive Semantics and Second-Language Pedagogy

The term 'cognitive semantics' is collectively applied to different streams of research such as Langacker's (1987, 1991, 2008) cognitive grammar; Lakoff's theories of metaphor (Lakoff & Johnson, 1980) and categorization (Lakoff, 1987); Talmy's (2000a, 2000b) theories on concept structuring and motion event typology; and Goldberg's (1995) construction grammar, among others. All these approaches to language differ from the formal approaches in their claim that "language is part of cognition and that linguistic investigation contributes to understanding the human mind" (Langacker, 2008: 7). CS presumes that linguistic knowledge is organized and retrieved in much the same way as other kinds of knowledge, and the processes and abilities employed in linguistic comprehension and production are similar to those applied to other cognitive tasks such as reasoning (Croft & Cruse, 2004). Linguistic structures, thus, cannot be segregated from *more basic systems and*

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[1]Interpretation tasks and consciousness-raising tasks are examples which make use of authentic reading texts to direct learner attention to specific forms. Ellis (2003, 2010) argues that such form-focused meaningful activities help develop accuracy in communicative contexts.

utilities such as perception, categorization and memory (Langacker, 2008: 8, emphasis added). CS is concerned with this semantic structure of linguistic elements and the interrelationships of such conceptual structures. These interrelationships include metaphoric and metonymic mapping, prototypes and their extensions, those between text and context, and those in the formation of abstract image schemas (Talmy, 2011).

This chapter discusses two main streams of research under CS that have been observed to have a high relevance for pedagogy: Langacker's (1987, 1991, 2008) cognitive grammar; and Lakoff's (Lakoff & Johnson, 1980; Lakoff 1987) conceptual metaphor and categorization.

Cognitive Grammar

One of the fundamental claims of cognitive grammar (CG) is that 'grammar is meaningful' and that there is no dichotomy between vocabulary items on one hand and grammatical categories and structures on the other (see Langacker, 2008, among others). In other words, grammatical elements (e.g., prepositions) and structures (e.g., passives), which have long been thought to serve the purpose of binding together vocabulary items, have meaning in their own right. What is the nature of this meaning? In CG, meaning is conceptualization, a mental phenomenon. Language is grounded in cognition and draws on general cognitive systems (e.g., perception, memory) and processes (e.g., categorization, schematization). This is why the theory is called 'cognitive grammar'. However, language is not an abstract mental phenomenon; it is rooted in the physical reality around us which includes but is not limited to social interaction, cultural beliefs, conventions and practices. As a functionalist framework, CG argues that grammatical structures, vocabulary and other linguistic elements neither exist in isolation nor are innately acquired. Instead, all linguistic elements (which includes vocabulary and grammar) are acquired from actual instances of language use (e.g., a conversation between two friends at a party). When a particular structure or a word occurs repeatedly in several contexts, the users form an abstract generalization about that particular form —called a 'schema'—and store it for future uses. When they encounter a similar situation, the form already stored is retrieved to 'construe' that particular situation in a specific way. Thus, there is no direct correspondence between the real event and the reported event; the reported event is just a 'construal' of the real event. Sometimes, there may be several options to report the same event, and the speakers choose one way over the others depending on what they are focusing on and what meaning they want to convey. This is where discourse becomes significant because linguistic units have meaning only in a particular discourse context.[2]

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[2]A discourse can be spoken or written. Since the focus here is on reading, 'discourse' here particularly refers to written texts such as essays, letters, stories, etc.

It is clear that discourse has been accorded an important place in CG. It is the platform where linguistic elements are observed, acquired and offered explanation. A discourse, just like individual linguistic elements, has a definite structure and is rooted in physical reality. Structurally, a discourse is "a series of conceptions associated with forms" (Langacker, 2008: 486). This means every usage event has an expressive and a conceptual dimension. A written discourse is viewed as having multiple layers of organization. Individual linguistic units form phrases which then lead to clauses, paragraphs, sections, a chapter and ultimately a book. In order to understand a discourse as a whole, the reader has to interpret component expressions in relation to what has come earlier and what will come later. Such retrospective and prospective connections can be established mainly through two kinds of coherence: referential and relational coherence (Sanders & Spooren, 2010). The former includes means of introducing individuals and key ideas/topics and tracking them throughout to establish a sense of connectivity across different parts of a text by means of full noun phrases, pronouns, etc. The latter refers to coherence established through relations such as cause–consequence, list, problem–solution, etc., which closely follow the natural order of non-linguistic concepts (Sanders & Spooren, 2010). The second dimension is the usage-based nature of discourse. The writer construes meaning in a particular way and encodes it in linguistic elements for an actual or an imagined reader to decode. This meaning, of course, is not just what is said explicitly; it encompasses all aspects of social interaction (physical setting, social norms, cultural beliefs, etc.). During reading, there is an interaction between the reader and the writer and if there is a substantial overlap between them in meaning making, the communication may be considered successful (Langacker, 2008). One can identify different kinds of written discourses. These genres include diary entries, restaurant menus, scientific articles, newspaper reports, notices, letters and e-mails, narratives, descriptions, etc. Each genre is a schema abstracted from several usage events. This schema is like a template and includes assumed commonalities, some features which occur repeatedly. These include but are not limited to global organization, local structural properties, typical content, specific expressions employed, and matters of style and register (Langacker, 2008).

Theories of Conceptual Metaphor and Categorization

Lakoff and Johnson (1980) argue that "our conceptual system is metaphorical in nature" and that metaphors structure "how we perceive, how we think, and what we do" (p. 3). In other words, we try to "understand and experience one kind of thing in terms of another" (p. 5). For instance, we often talk about arguments in terms of war as the following examples illustrate:

(1)

(a) The argument *escalated* from there before coming to an end.
(b) The radio host had a *heated* argument with his co-worker.
(c) The senator then *demolished* the CEO's argument.
(d) *Attacking* the character of the person making argument rather than the argument itself is a logical fallacy.

It is further argued that most of these metaphors have a basis in our physical and cultural experience. Space is considered one of the most fundamental domains of experience upon which other experiences are based (Lakoff & Johnson, 1980: 57). For instance, membership of a group, time or an emotional state is construed as being in a container, a three-dimensional space:

(2)

(a) John is *in* the garage.   (*actual physical experience*)
(b) Sharma is *in* Mumbai Indians.   (*membership of a group/team*)
(c) The wedding is *in* April.   (*a unit of time*)
(d) Stella is *in* distress.   (*emotional state*)

Socio-cultural values also influence how we conceptualize the world. For instance, one of the popular values of Western culture is 'The future will be better'. This is reflected in the metaphor 'the future is up; good is up' (e.g. "Keep looking up! I learn from the past, dream about the future and look up"—Rachel Boston) (see Lakoff & Johnson, 1980: 22 for details).

Another important aspect of our world is metonymic concepts—conceptualizing the whole in terms of its parts or vice versa. The following examples illustrate this:

(3)

(a) The Supreme Court dismissed a PIL on fundamental duties. (*an institution stands for its members, here judges*)
(b) The latest newspaper reports have upset the Crown. (*an object stands for an institution*)

Lakoff's other major contribution has been the categorization theory. He argues that human beings categorize the world around them and this categorization can be explained in terms of a prototype and radial categories extending from it based on perceived schematic commonalities. For instance, in the category of 'mother', the prototypical would be the biological model, 'one who is married to the father and has given birth and one who nurtures'. There are extensions from this prototype to other categories, such as 'stepmother', 'foster mother', 'surrogate mother', etc. (Lakoff, 1987: 83).[3]

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[3]'Prototype(s)' or 'prototypical member(s)' refers to the best example of a particular category. 'Radial categories' emerge as extensions from this prototype based on some common features. The extended categories may not share any common feature(s). See Lakoff (1987) for details.

Pedagogic Applications of Cognitive Semantics

The principles that meaning and not syntax is central to language and that meaning is based on actual usage contexts have made CS a favourite for applied linguists. There have been attempts to explain the meaning of grammatical categories and structures and integrate them into language teaching. An area which has been extensively studied is prepositions. Studies have proposed frameworks to teach prepositions based on schematic pictures or icons (e.g., Lindstromberg, 1996); metaphoric extensions (Boers, 2004; Boers & Demecheleer, 1998); and figurative uses, idioms and phrasal verbs as motivated extensions from the prototypical uses of prepositions (e.g., Tyler & Evans 2004, Lindstromberg, 2010). Other areas of grammar which have been studied include modal verbs (e.g., Tyler, 2008), tense/ aspect, and definite and indefinite articles as part of a larger referencing system (e.g., Radden & Dirven, 2007), among others. See Boers and Lindstromberg (2006) and Putz (2007) for a detailed survey of studies in applied cognitive semantics.

There have been some attempts to enhance reading comprehension skills based on the theory of conceptual metaphor (Lakoff & Johnson, 1980). These are discussed in detail below.

Cognitive Semantics and Reading in ESL Contexts

Reading comprehension is said to be the result of several psycholinguistic processes happening concurrently. When the reader approaches a text, the first level of processing is at linguistic level. The reader decodes graphic symbols, recognizes words and begins parsing from word level to individual sentence level. The next level is semantic analysis, where the reader combines word and sentence meanings to form propositions and (re)construct the meaning of a text. The reader first builds a microstructure working through coherence and coreference, then organize microstructures into macrostructures (global topics and interrelationships). The final stage is constructing a situation model, where the reader syncs the given information with previous knowledge and with the goal of the reading (Kintsch & Rawson, 2011).

In the following sections, along with the conceptual metaphor theory other implications of CS for reading are discussed. We show how CS can contribute to more effective linguistic decoding, enhanced structure awareness and a critical reading of the text.

Awareness of Conceptual Metaphor in Texts

One of the revolutionary claims within the CS paradigm has been that 'we live by metaphors'. Metaphor here is not just used in its limited interpretation of figure of speech, but as a concept overarching the entire human thought process. Lakoff and

Johnson (1980) term it 'conceptual metaphor' because it structures "how we perceive, how we think, and what we do" (p. 3). It has been claimed that abstract thought is not possible without thinking something in concrete and the concrete domain chosen determines how one looks at the abstract (Littlemore, 2004). For instance, 'time' is usually talked about in terms of 'money' as in the examples below:

(4)
- (a) *Spending* quality family time together is always important.
- (b) To create a meaningful relationship, we need to *invest* the time it takes to understand someone.
- (c) The security won't *waste* time checking entry passes for students.

Similarly, computer-related problems are talked about in terms of human diseases, for example the thing which affects computers is called a 'virus'. This is just one example. The following extracts from a newspaper indicate the pervasiveness of this metaphor:

(5)
- (a) Governments, companies and security experts from China to Britain on Saturday raced to *contain* the fallout.
- (b) While most cyber-attacks are inherently global, this one, experts say, is more *virulent* than most.
- (c) Despite people's best efforts, this *vulnerability* still exists.
- (d) … users' tales of how their computers had been *infected* and tips on how to avoid the *virus.*
- (e) … 45 of its hospitals, doctors' offices and ambulance companies had been *crippled*.

(Scott, 2017)

Studies on enhancing the metaphoric awareness of ESL readers observe that such awareness can lead to more effective retention of keywords and ultimately a coherent text representation in readers' minds. Boers (2000), for instance, investigated whether making metaphoric connections explicit would lead to better in-depth comprehension and vocabulary retention among a group of business studies students. A text on an economic issue with several conventional figurative expressions (e.g., 'overcoming a hurdle', 'bailing out the firms', 'weeding out discrepancies') was chosen. While the control group was taught through the traditional method of explaining word meanings, the experimental group was made aware of metaphoric connections (e.g., weed out: pull out unwanted wild plants). The experimental group performed significantly better than the control group on a test based on inferences and value judgements, and a gap-filling test on keywords used in the text. See also Allbritton, McKoon and Gerrig (1995), Littlemore (2004), among others.

By extension, conceptual metaphors in a written text represent the writer's view of the world. Readers need to understand the underlying conceptual metaphors at the initial level to understand the text and then question the writer's assumptions and arguments critically. This is more relevant in persuasive texts where the validity of underlying arguments is crucial for accepting or rejecting the writer's viewpoints. A related area of research has been critical metaphor analysis, which claims

that "metaphorical expressions in text reflect and effect underlying construal operations which are ideological in nature" (Hart, 2011: 270). For instance, Charteris-Black (2006), in an analysis of political speech in Britain, observes the use of the verb 'swamp' in relation to immigration (e.g. "…local schools were being swamped by the children of asylum seekers", p. 570) which "evokes strong emotions and creates a myth that immigration is excessive and communicates the ideological political argument that it should be stopped—or even be reversed" (p. 567). These studies indicate that raising awareness about conceptual metaphor can enhance reading comprehension and also help in evaluating the text.

Significance of Cognitive Processes in Meaning Making

CS claims that meaning making as part of reading comprehension is cognitive in nature. What does this mean? It has been generally assumed that readers approach a text with some background knowledge (known as 'schema') from linguistic, world and socio-cultural domains. On the other hand, any given text has information encoded in words, clauses, paragraphs, chapters and so on. Successful comprehension is said to happen when both these resources interact and readers 'understand' what the writer actually intended. CS approaches argue that the text may have encoded some information, but its processing is essentially mental in nature. Several cognitive faculties such as memory, general cognition and cognitive processes are active in the process of reading and meaning making. In other words, readers employ several cognitive processes and reconstruct the text in their minds.

One of the related claims is that "…connectedness of discourse is a characteristic of the mental representation of the text rather than of the text itself" (Sanders & Maat, 2006: 592). Note here that in Halliday's traditional account, text connectedness or 'coherence' results when "…the interpretation of some element in the discourse is dependent on that of another" (Halliday & Hasan, 1976: 4). This relationship between elements could be reference, ellipsis, substitution, conjunction or collocation.[4]

However, there may not always be overt linguistic signals and readers would still interpret a set of sentences as connected. CS argues that this is made possible through deployment of several strategies such as inference, establishment of metaphoric and metonymic links, propositional links, etc. Sanders and Spooren (2010) discuss this in detail. Let's look at an example.

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[4]In Halliday's framework (Halliday & Hasan, 1976) 'reference' is a linguistic element (such as pronouns or demonstratives) which makes "reference to something else for their interpretation" (p. 31); 'ellipsis' refers to leaving some linguistic elements "unsaid but understood nevertheless" (p. 142) (e.g., John bought books and Mary bags); 'substitution' is "replacement of one item by another" (p. 88) (e.g., I don't have a cat but my brother has one); 'collocation' is "cohesion that is achieved through the association of lexical items that regularly co-occur" (e.g., 'boy' and 'girl' are cohesive because they have opposite meanings and are used often together) (p. 284).

(6) Greenpeace has impeded a nuclear transportation in the Southern German state of Bavaria. Demonstrators chained themselves to the rails.

(p. 916)

In order to understand this extract from a newspaper as a connected text, as Sanders and Spooren (2010) observe, readers do not just depend on the given textual information but also infer many details based on world or discourse structure characteristics. For instance, readers know that 'Greenpeace' stands for members of that organization and not the organization itself (a metonymic interpretation), that 'demonstrators' in the second sentence refers to members of Greenpeace referred to earlier (an instance of referential coherence), that the nuclear equipment was being transported by train and the protestors chained themselves to the rails on the route this train took (inference based on the world knowledge using the clue 'rails'), and finally that this act made the train stop and the transportation could not take place (inferred from the word 'impede') (Sanders & Spooren, 2010: 916–917). While most of these inferences are based on world knowledge (propositional, metonymic, etc.), discourse structural characteristics such as referential coherence and relational coherence also play a crucial role. The former refers to creating a sense of continuity through repeated references to the key objects and/or themes, whereas the latter refers to connectedness brought about by discourse relations such as cause–effect, problem–solution often instantiated through linguistic markers such as connectives and lexical cue phrases (Sanders & Spooren, 2010). Here the readers infer that there is a cause–effect relationship between the two clauses though the order of the sentences is the other way round.

This analysis implies that in the ESL reading class, teachers need to focus on drawing inferences and interpreting referential and relational coherence markers. This will help to connect sentences, paragraphs, sections and chapters and ultimately to view the text as a whole.

Understanding Discourse Structure and Forming Genre Templates

It has been observed that an awareness of discourse structure can enhance reading comprehension (Grabe, 2009). The CS perspectives on discourse which are of relevance to pedagogy are that discourse, just like individual linguistic elements, is highly structured and is usage based (see Langacker, 2001, 2008). Discourse is structured in the sense that it consists of a series of connected usage events, each having an expressive and a conceptual side. The conceptual content is organized at multiple layers: individual linguistic units form phrases which then lead to clauses, paragraphs, sections, a chapter and ultimately a book. In order to understand a discourse as a whole, the reader has to interpret component expressions in relation to what has come earlier and what will come later. Prior and later connections with each clause-level expression are emphasized since each successive one is related to

the previous ones: "building on it, reacting to it, or just by changing the subject—and sets the stage for what will follow" (Langacker, 2008: 460). Langacker (2008) observes that a well-structured discourse adheres to some basic principles: (i) it builds on what has already been established through clear links across the text; (ii) it presents new information at a rate easy for processing; (iii) each clause is self-contained and the need for backtracking is minimal; and (iv) the order of presentation of details conforms to a natural order of non-linguistic conceptualization (e.g., first cause and then consequence). These principles could actually guide selection of level-appropriate texts in ESL contexts.

The second important characteristic of discourse is that it is usage based. Langacker (2008) observes that repeated occurrences of a particular set of structural features in a context lead to formation of a genre (e.g., letters, e-mails, manuals). Each genre is identifiable in terms of "global organisation, more local structural properties, typical content, specific expressions employed, matters of style and register, etc." (p. 478). For instance, the phrase 'Once upon a time' usually induces an expectation that what follows is a story (Langacker, 2008).

In a pedagogic context, it follows from this analysis, it is essential to focus on the structure of a text and help learners build information bit by bit. Also, if learners are exposed to several texts of the same genre, they may form a template and this in turn will help them read more effectively. In this context, a "pedagogic corpus" (Willis & Willis, 2007), a collection of reading texts for use in ESL classrooms, may be an effective tool. A detailed example of structure analysis of a text is presented in Section "Cognitive Semantics and Reading in ESL Contexts".

Encyclopaedic Nature of Meaning: Going Beyond Dictionary Definitions

Traditionally, words are thought to have two 'levels' of meaning: 'linguistic meaning' and 'fuller meaning based on extralinguistic resources'. For instance, the word 'rose' is said to mean a flower literally and in the famous line of Robert Burns 'My love is like a red, red rose', it is said to have a figurative and symbolic meaning. It is literal meaning(s) of a word that is/are listed in a typical dictionary, whereas the extended meaning is said to depend on the context. CS refutes any such dichotomy. It is argued that a word or a sentence is used in a context and its meaning encompasses several domains such as linguistic, socio-cultural, physical setting and discourse context among others. Langacker (2008: 463–465) illustrates this with an example. Let's imagine a reader comes across the following sentence:

(7) The cat is on the mat!

If this sentence is used as a warning, readers/listeners are most likely to imagine a typical domestic cat mounting an expensive decorative mat on the wall. In addition to 'literal' meanings of the words used, we know that there is only one cat and that a

particular mat is being referred to (article 'the' denotes definiteness). The preposition 'on' encodes the relationship of support against gravity and it implies that either the cat or the mat or both may fall down. It is because of shared cultural knowledge that we know that cats are kept as pets, that valuable things are mounted on a wall, and that valuable things are protected and hence an alarm needs to be raised. The warning also denotes a kind of amicable relationship between the users. If it were uttered by a subordinate to a superior officer it would be more appropriate to say: "Sir! The cat is on the mat."

This illustrates that dichotomy between 'linguistic' and 'extralinguistic' is completely artificial, as an expression's meaning encompasses several domains. Most often, the other cues are largely implicit and readers need to *interpret* each element in context. Let's look at another example.

(8) No more red beacons for dignitaries

Sentence (8) is a newspaper headline. When a person begins to read this newspaper headline, the linguistic decoding starts. This sentence has six words and if the reader knows all these words, can he/she claim to have understood the sentence? The complete understanding needs a lot more than just dictionary meanings of these words. Readers need to understand the concepts of 'VIPs' and 'red light as status symbol' among others. They need to be aware of the problematic situation—rampant misuse, development of unhealthy VIP culture—which led to this ban on the use of red lights on top of cars by such VIPs.

What does this mean for pedagogy? Teachers need to emphasize that interpreting a word draws resources from multiple domains and not just the literal meaning listed in dictionaries. Teachers may provide an introduction to the given text describing the socio-cultural context in which it was written. By extension, it would also mean that teachers need to prefer texts with familiar backgrounds over those with alien contexts.

Meaningfulness of Grammar

As observed earlier, in CS every linguistic element has a meaning associated with it and this meaning derives from its contextual usage. Traditionally, vocabulary items have been considered to have 'meaning', whereas closed class items (such as prepositions or articles) and grammatical categories and structures 'have grammatical functions rather than rich meanings' (Murphy, 2010: 14). As a result, they are not studied under lexical semantics. This is also reflected in pedagogic contexts. One can usually see these two types of linguistic element being studied under separate sections, 'Vocabulary' and 'Grammar', in school textbooks. While 'Vocabulary' focuses on word meanings and the usage contexts, 'Grammar' deals largely with rules and examples with little or no meaning-based explanations. Even during reading comprehension, teachers 'explain the difficult words' with the assumption that if learners have access to word meanings, then their comprehension is successful.

CS, however, argues that there is conceptualization behind every linguistic element and hence 'grammar is meaningful' (Langacker, 2008). This conceptualization is based on its use in specific contexts. Since it is usage based and context specific, a linguistic element is said to 'construe' the reported event in a particular way. This implies that there may be more than one option available for speakers of a language to encode an event. The structure—let's say Structure A—chosen imposes only one particular way of looking at it. When a speaker encounters similar events in future, this particular Structure A imposes a specific viewpoint. This necessarily entails that the actual events in the outside world are not represented objectively through language; rather, they are seen through a particular lens of an element which selects a few aspects, leaves out the rest and perceives the world in a specific way. Therefore, the choice of a word over another, a grammatical category over another or a structure over another indicates different conceptualizations.

Let's look at an example. Imagine there was a robbery at a local bank. This can be reported as in the following:

(9)
 (a) The bank was robbed last night.
 (b) The thieves robbed the bank last night.

The first one sounds more natural in this context—the reason is that the doer of the action is unknown or too general and hence it is more natural to leave it out and opt for a passive structure. Langacker (2008: 493), in fact, observes that the passive structure is used in English with the following clear conceptualization: (i) in a discourse, the focus of the action has been introduced and in order to keep that particular character in focus even though he/she is not the doer of action (e.g., *I met John yesterday. He has been bitten by a mad dog*); (ii) the doer of the action is unknown (e.g., *A student was lynched in a university in Pakistan on charges of blasphemy*); (iii) the doer is inconsequential or is too general (e.g., *The ATM was robbed last night and Rs 10 lakh was stolen*); or (iv) the identity of the doer is purposefully hidden (e.g., *The antique statue was dropped and broken*).

In a text, it must be noted, a writer has at their disposal a variety of options to encode the same content. By choosing a particular structure or word, the writer 'construes' an event in a particular way. Therefore, in order to comprehend a text in detail, the readers need to understand the construal behind a structure.

Let's look at a few more examples. Sentences in each pair appear to denote the same end result, but there is a difference in conceptualization:

(10)
 (a) Sam caused Harry to die.
 (b) Sam killed Harry.

(11)
 (a) John taught Greek to Bill.
 (b) John taught Bill Greek.

(Lakoff, 1987: 131)

Lakoff (1987) observes that the difference in meaning is brought about by whether the modifier and the modified are placed in proximity or not. The second sentences in these pairs seem to indicate a stronger causal link, whereas the first sentences do not.

Let's look at another set of examples where the position of a locative phrase brings about change in focus.

(12)
 (a) Diana came across a python in the middle of the street.
 (b) In the middle of the street Diana came across a python.

By preposing the locative phrase in 12(b), the new information is withheld till the end and is then presented to create dramatic effects. Such a construction "directs attention to an already accessible location, and then brings a new participant… into the discourse by establishing it in location" (Langacker, 2008: 81).

While reading, teachers need to focus learners' attention towards the choice of structures or words to express thoughts and ideas. Teachers can highlight various other possible options and then arrive at the possible rationale for choosing one particular structure over another. This may help understand the purpose of the writer or any hidden intentions.

Prototypes and Radial Categories: Understanding Figurative Uses

CS argues that the so-called figurative uses of a linguistic element can be explained in terms of meaning connections with the non-figurative uses. This is rooted in Lakoff's theory of categorization (Lakoff, 1987). It is argued that every linguistic unit categorizes worldly experiences in a certain way. This categorization is usually centred around a 'prototypical category' and 'radial structures' which are extensions from it based on perceived commonalities (Lakoff, 1987). Applying this principle, several studies have investigated meaning–meaning connections which show how peripheral uses of a word are meaningfully extended from the core uses. For instance, Tyler and Evans (2004) is a study which investigates the polysemy of the preposition 'over'. Some uses of 'over' are listed in 13(a–d):

(13)

(a) The picture is *over* the mantle.	(*proto-scene*)
(b) The cat jumped *over* the wall.	(*A–B–C trajectory*)
(c) Arlington is *over* the river from Georgetown.	(*on the other side of*)
(d) Your article is *over* the page limit.	(*above and beyond*)

(Based on Tyler & Evans, 2004: 271)

While traditional accounts list these uses simply as an instance of polysemy, CS attempts to link the uses. Example 13(a) is the prototype where 'trajector' (the object in focus) (here 'the picture') is vertically higher than 'landmark' (the reference point)

(here 'the mantle'); yet they are "within each other's sphere of influence" (Tyler & Evans, 2004: 262). This sense of being stationary in a vertically higher position leads to the usage in (b) where the trajector is under motion from point A to C passing through point B, which is vertically higher than the landmark. The end result in (b) is being located on the other side of the landmark and this is focused in the usage (c) where the trajector's end state is represented. This sense of being beyond the landmark is metaphorically extended to being beyond the prescribed page limit in (d).[5]

Such meaning–meaning connections may be established on propositional models that specify links in knowledge structure (e.g., after an act of jumping the object reaches the other side); image-schematic models (e.g., the trajectory of 'jumping' from A to C via B); metaphoric models (e.g., beyond a physical boundary → beyond an abstract boundary); or metonymic models (e.g., the name of an organization standing for its members in example 6 above) (see Lakoff, 1987: 113–114 for details).

The other kinds of connections investigated are form–form and form–meaning. Form–form connections include rhyme, alliteration and assonance. These patterns can be observed in some common compounds such as *pick-pocket, playmate, publish or perish* (Boers & Lindstromberg, 2006: 312). Studies have investigated whether there is any one-to-one correspondence between linguistic forms and meanings they encode. One of the principles postulated is 'sameness of form, sameness of meaning', that is, a particular set of sound sequence may express similar meanings. For instance, the sequence /sp/ in English occurs at the beginning of a large number of monosyllabic words which have a negative connotation (e.g., *spite*, *spit*, *spoil*) (Radden & Panther, 2004: 18).

Amritavalli (1999), though not a study in the CS framework, highlights how meaning connections can significantly help in understanding keywords and ultimately a complete text. She reports an incident in which an intermediate-level ESL learner had difficulty in understanding the phrase 'leave an impression on somebody' in a reading text. Even the dictionaries were not very useful. The learner understood the expression only when the researcher linked the given expression with a more concrete expression 'thumb impression'. She observes that the underlying schema remains the same for these two expressions: (i) something having to press on something; and (ii) leaving a mark (p. 266).

The next section presents a unified model of reading comprehension drawing on all these principles with reference to a sample text.

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[5]'Trajector'—or 'figure' in Talmy's (2000a, 2000b) framework—is an entity under focus in a motion or static event, whereas 'landmark'—or 'ground' in Talmy's (2000a, 2000b) framework— is an entity which serves as a reference point for describing trajector's motion or location. For instance, in the sentence 'The cat jumped over the wall', 'The cat' is trajector while 'the wall' is landmark. See Langacker (1987: 217–220); Talmy (2000a, Chap. 5) for details.

Applying Principles of Cognitive Semantics to a Text

In the previous sections, we discussed some insights CS can offer regarding reading in ESL contexts. We saw that an awareness of conceptual metaphor can enhance reading comprehension and critical reading; exposing learners to various genre formats repeatedly leads to knowledge about the structure of discourse and genre characteristics which in turn lead to effective comprehension; focusing on the fact that meaning making encompasses several domains other than what is stated explicitly and therefore it is mostly a cognitive phenomenon, learners can be trained to interpret each sentence and connections across the text; and principles of meaningfulness of grammar and meaning-based motivations for figurative extensions facilitate interpretation of structures. In this section, we illustrate how a text can be analysed based on these principles.

The text chosen is an extract from Brecht's "Emphasis on Sport". The extract is given below:

Box 9.1 An extract from Brecht's 'Emphasis on Sport'

We pin our hopes to the sporting public.

Make no bones about it, we have our eye on those huge concrete pans, filled with 15,000 men and women of every variety of class and physiognomy, the fairest and shrewdest audience in the world. There you will find 15,000 persons paying high prices, and working things out on the basis of a sensible weighing of supply and demand. You cannot expect to get fair conduct on a sinking ship. The demoralisation of our theatre audiences springs from the fact that neither theatre nor audience has any idea what is supposed to go on there. When people in sporting establishments buy their tickets they know exactly what is going to take place; and that is exactly what does take place once they are in their seats: viz. highly trained persons developing their peculiar powers in the way most suited to them, with the greatest sense of responsibility yet in such a way as to make one feel that they are doing it primarily for their own fun. *Against that the traditional theatre is nowadays quite lacking in character.*

(Brecht 1926/1957, p. 9, emphasis in original)

Linguistic Analysis

To begin with let's look at some phrases and expressions in the passage and how a cognitive semantic analysis can help readers understand them.

(a) We pin our hopes to the sporting public

The phrase 'pin hope to somebody' can be explained as an extension of a more concrete experience. The core use would be fastening something onto something using a pin (e.g., 'A life-size poster of MJ was *pinned* to the wall of Joe's bedroom'). An immediate extension of this is forcing something to stay in a fixed place by putting weight on him/her (e.g., 'In the bar a bouncer jumped on me and *pinned* me against the wall'). In the phrase 'pin hope to somebody', instead of an object an abstract notion ('hope') is fastened tightly to a person. By linking this abstract use with the more concrete use, the readers understand the emphasis on the 'sporting public' for building and sustaining hope about the revival of theatre.

(b) Make no bones about it

The idiom means 'have no difficulty/hesitation talking about something'. Where did this meaning come from? By delving into the historical origin of the idiom, teachers can explain that it is likely to have originated from a culinary context: if there are no bones in a soup bowl it is easy to drink it and you do not need to struggle at all. By extension, if there are no bones, then there are no problems talking about an issue. Why is the writer using this idiom here? Brecht here urges the public to acknowledge the great love for sport and uses that analogy to drive home his point —that theatre needs to remodel itself along the lines of sport.

(c) We have our eye on those huge concrete pans

Brecht here uses a metaphor, referring to stadiums as 'pans'. The underlying schema common to both is 'container'. Brecht seems to use this to emphasiz the huge number of people who go to stadiums to watch a game.

(d) You cannot expect to get fair conduct on a sinking ship

Brecht uses the analogy of a sinking ship. An interpretation of this expression calls for encyclopaedic knowledge. Learners may be asked to imagine they are cruising on a ship in the middle of the ocean and suddenly the ship starts sinking due to an accident. They may recall scenes from popular movies and fiction (e.g., the movie *Titanic*). The crowd becomes agitated and lawless. All rules and regulations are broken and everybody wants to save themselves first. Is such behaviour wrong? We may not judge it so. Using this analogy, Brecht argues that if people do not come to theatres, then there is a problem with the plays ('sinking ship') and not with the people themselves.

Semantic Analysis

In this section, we look at how conceptual content is organized in the text.

Template of an Argumentative Text

Looking at the structure of the passage, we can infer that it is argumentative in nature. What can we infer about the genre, based on this text? As an argumentative text, its purpose is to persuade readers to form an opinion (that when compared to sport, theatre is suffering and theatre needs to remodel itself) and initiate a specific action (reforming theatre along the lines of sport). The main argument is that theatre is lacking in character in comparison with sport and is failing to attract people; therefore, theatre needs to restructure itself and meet audience expectations as well as uphold the spirit of art. This argument is built using an analogy—a comparison between sport and theatre in terms of number of people who are interested and the underlying motive. Based on the text, the following template could be proposed for argumentative texts:

Box 9.2 Template for argumentative texts	
Purpose:	Persuade readers to form an opinion or take a specific action or both
Structure:	Thesis statement supported by various kinds of arguments (anecdotes, facts, observations, data, etc.). Points could be organized using an extended analogy, expository structure, narrative, etc.
Language:	(i) Direct statements with explicit opinions (e.g., 'We pin our hopes to the sporting public', '*Against that the traditional theatre is nowadays quite lacking in character*') and no understatements.[6]
	(ii) Modifiers to make arguments stronger (e.g., 'the fairest and shrewdest audience in the world', 'When people in sporting establishments buy their tickets they know exactly what is going to take place')

If learners are encouraged to notice these features and form a template for themselves, it will facilitate reading of similar texts in future.

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[6]The above statements could have been hedged as in 'We *might* pin our hopes to the sporting public' or '*One might be tempted to conclude* that against that the traditional theatre is nowadays quite lacking in character'.

Progressive Structuring of Content

Let's see how the conceptual content is progressively built in this text. Recall here that CS insists on interpreting prior and later connections across clause-level expressions. The content is structured as follows:

> **Box 9.3 Content structure**
> Current situation (not stated explicitly in the passage): people not coming to theatre; theatre suffering
> Solution: Remodel theatre on the basis of sport
> Why: (i) Sport attracts people of all classes in huge numbers
>   (ii) People ready to play high price for tickets—'sensible weighing of supply and demand'—in contrast, 'demoralised theatre audience'
>
> Is it something wrong with the people then? No—theatre is sinking ship and audience cannot be expected to 'behave' well
>
> What is wrong with theatre then?: (i) In stadiums people have expectations and those expectations are met; in theatre no expectations
> (ii) Sportspeople develop their own peculiar powers/talent (means they play for their own sake) yet it appears as if they are doing it to entertain audience; theatre lacks it.

Learners may first be asked to look at the title of the given text and guess what the main thesis could be. Later, starting from the first paragraph connections need to be established across paragraphs and the common underlying thread (the main thesis of the text) needs to be highlighted. Learners may also be encouraged to discuss the rationale for composing each paragraph. The concluding paragraph needs to be examined in relation to all the previous paragraphs and the title of the text.

It must be noted that this simplified discussion is for illustrative purposes only. Not all argumentative texts will have a similar structure or a linear content development. Nevertheless, CS resources can help learners understand text in a more effective way through detailed interpretation of linguistic elements and a careful analysis of text structure.

Conclusion

This chapter has looked at some implications of CS for reading in ESL contexts. We observed that CS can lead to more effective linguistic analysis because it offers meaning explanations not just for vocabulary but also for grammatical structures, and it helps link more abstract and figurative uses with concrete uses. By focusing

on the encyclopaedic nature of meaning and the cognitive nature of meaning making based on actual usage contexts, CS emphasizes more comprehensive semantic analysis and text-base formation based on linguistic and non-linguistic domains. At the macro structure level, CS emphasizes cohesion and coherence as a mental phenomenon, and recurring structural commonalities. An awareness of the metaphoric structure of text leads to more coherent analysis and a critical interpretation of author intentions.

However, some challenges remain. One of the biggest challenges for applied cognitive semantics has been arriving at pedagogical versions of meaning motivations. Though several studies have offered meaning-based explanations for grammatical phenomena, they still remain technical and therefore inaccessible to practising teachers and ESL learners. In this regard, more studies bridging the gap between CS and ESL pedagogy are needed. In this chapter it has been proposed that making learners aware of text structure in terms of genre template may result in better comprehension. Experimental studies on text-structure awareness and its effect on reading comprehension from the CS perspective are needed to throw more light on this aspect. Regarding metaphor awareness, a majority of studies are related to reading in ESP contexts and show that such awareness leads to better comprehension. Extending on this, studies in pedagogic contexts on critical metaphor awareness would open a new dimension for applying CS to pedagogy.

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