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The Effectiveness of Cognitive Linguistics for Language Pedagogical Purposes

Abstract

This article is about applied cognitive corpus linguistics, that is, the combined use of cognitive linguistics and corpus linguistics for pedagogical purposes. Cognitive linguistics brings together several theories, including Cognitive Grammar, (several models of) Construction Grammar (CxG) and conceptual metaphor theory, which differ from one another but also share some important tenets, most notably the idea that all language units are meaningful and convey a certain conceptualization. The article describes the main features of each framework from a teaching perspective and emphasizes their complementarity. Several illustrations show how applied cognitive corpus linguistics combines the benefits of corpus data with the benefits of cognitive principles in a way that supports the development of the learner's language system.

Keywords: *cognitive linguistics, corpus linguistics, language teaching, foreign language learner*

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Koqnitiv dilçiliyin dil pedaqogikası məqsədləri üçün effektivliyi

Xülasə

Bu məqalə tətbiqi koqnitiv korpus dilçiliyindən, yəni koqnitiv linqvistikanın və korpus linqvistikasının pedaqoji məqsədlər üçün birgə istifadəsi haqqındadır. Koqnitiv dilçilik bir-birindən fərqlənən, lakin eyni zamanda bəzi mühüm prinsipləri bölüşən Koqnitiv Qrammatika, (bir neçə model) Konstruksiya Qrammatikası (CxG) və konseptual metafora nəzəriyyəsi də daxil olmaqla bir neçə nəzəriyyəni, xüsusən də bütün dil vahidlərinin mənalı olması və müəyyən konseptuallaşdırmanı çatdırması fikrini bir araya gətirir. Məqalədə hər bir çərçivənin əsas xüsusiyyətləri tədris nöqteyi-nəzərindən təsvir edilir və onların bir-birini tamamlaması vurğulanır. Bir neçə illüstrasiya tətbiqi koqnitiv korpus linqvistikasının korpus məlumatlarının faydalarını öyrənənin dil sisteminin inkişafını dəstəkləyən şəkildə koqnitiv prinsiplərin faydaları ilə necə birləşdirdiyini göstərir.

Açar sözlər: *koqnitiv dilçilik, korpus dilçilik, dil tədrisi, xarici dil öyrənən*

Introduction

Cognitive linguistics (CL) represents an experimentalist and therefore anti-objectivist stance in describing the relationship between the world on the one hand and language and thought on the other. This has broad implications for reference, deixis, pragmatic force, categorization, lexicalization, and lexical semantics, many of which are currently under development. The fundamental re-evaluation of CL involves a rejection of Cartesian dualism, reuniting mind and body to see language and thought - and conceptualization itself - as embodied. Embodied experience finds expression functionally in metaphorical structures (idealized cognitive models, or ICMs), which in turn are manifest in both conventional and novel metaphors and expressions. Conventional communication involves shared (perhaps universal) ICMs and image-schemas, through which we structure our understanding of the world and through which we even structure new concepts.

It is the awareness of ideology and the status of linguistic analysis as a scientific method or critical engagement that is at the heart of the CL/CDA comparison. Though some work within the sub-branch of 'cognitive poetics' (Turner et al., 1991) has focused on the stylistic expression of linguistic metaphors, in general, CL is concerned mainly with the conceptual mappings which underlie metaphorical expressions.

Corpus linguistics is a framework that relies on the use of corpora, i.e., databases of naturally occurring language. It is "an empirical approach to studying language, which uses observations of attested data in order to make generalizations about lexis, grammar, and semantics" (Stubbs, 2004). Cognitive corpus linguistics is the combination of the principles and methods of cognitive and corpus linguistics. It may be said to have arisen simultaneously from "an increasing awareness (within cognitive linguistics) that the study of linguistic phenomena needs to be grounded in usage" (Arppe et al., 2010) and the recognition, among corpus linguists, that corpus studies, in addition to methodological rigour, also require theoretical sophistication. Cognitive linguistics and corpus

linguistics have been shown to be compatible through their shared basic assumptions and complementary through their divergences.

This article focuses on the most direct applications, that is, those activities that teachers can propose to their students. While it considers different types of corpora (native corpora, bilingual corpora, learner corpora) and various cognitive assumptions (usage-based approach, salience, construal, reconstruction, etc.), the aim is merely to outline the rationale and provide some illustrations, in the hope that this will encourage researchers and practitioners to develop their own ideas.

Research

Cognitive linguistics and pedagogy. As a theoretical framework, cognitive linguistics is meant to explain all the aspects of language use. However, through its basic tenets, it is inextricably linked to the process of language acquisition. Thus, Littlemore and Juchem-Grundmann highlight three assumptions that are shared by all cognitive linguistic theories: "language is not an autonomous cognitive faculty, knowledge of language emerges from language use; language is a product of physical interaction with the world" (Littlemore & Juchem-Grundmann, 2010). Each of these assumptions says something about how language is acquired (through general cognitive processes, through language use, and through physical interaction with the world). While it is first and foremost child language acquisition that is implicitly referred to, the tenets of cognitive linguistics also have implications for second language acquisition, and hence for language teaching. For example, if language knowledge emerges from language use, it is necessary to expose learners to the L2 as much as possible, inside but also outside the classroom.

Numerous publications have been devoted to the pedagogical applications of cognitive linguistics (Pütz et al., 2022). They underline one of the most useful cognitive principles for teaching, namely the assumption that language (all forms of it) makes sense, by exploiting concepts such as motivation, categorization, or schematization. These studies tend to center around a few pet subjects, including prepositions, phrasal verbs, idioms, and metaphors. Most of them take the form of small-scale and short-term experiments in which a group of students is taught certain language items through a cognitively inspired pedagogy, while a control group is taught the same language items by means of traditional teaching methods.

Pedagogy was not a driving force behind the origin and the initial development of corpus linguistics (Leech, 1997). Yet, because most researchers in corpus linguistics were also university teachers, corpora soon started to be exploited for pedagogical purposes. The advent of learner corpus research, which relies on the analysis of corpora representing learner language, gave a new impetus to the link between corpus linguistics and pedagogy, as the potential contribution of learner corpus research to teaching was emphasized from the very beginning (Granger, 1993). Over the last few decades, many studies have shown how native/expert and learner corpora can help improve teaching.

The benefits of corpora for teaching are many, but they can mostly be subsumed under the general advantage that they reflect authentic language use. Reference corpora of native/expert language can serve to provide better descriptions of naturally-occurring language and thus inform any of the resources used for teaching – textbooks, grammar books, dictionaries, software, etc. They can also help teachers decide what to focus on and not to focus on (depending on what is frequent in the reference corpora, for instance). Learner corpora too can provide useful information to guide the design of the curriculum, for example, by pointing to aspects of language that are often misused, underused, or overused among (a given population of) learners or by establishing lists of language items that learners at a certain proficiency level should be familiar with. Students themselves can be given access to (native/expert or learner) corpus data and carry out their own analyses in order to come up with generalizations about language, a form of pedagogy known as 'data-driven learning'.

The general reference tools (especially dictionaries and pedagogical grammars) are increasingly corpus-based, but the closer we get to the day-to-day classroom activities, the less published material there is. Corpus-based textbooks do exist (McCarthy et al., 2004-2006), but the contribution of corpora to these textbooks tends to be rather modest. As for data-driven learning, the paucity of ready-

made worksheets or teaching plans has often been deplored, although more are starting to become available on the Internet. More philosophical reasons may also have prevented corpora from being widely used in the classroom, including the preference, among many educational actors and even students, for more traditional teaching approaches, and possibly their (unfounded) fear that the corpus may end up supplanting the teacher as a repository of knowledge.

Using corpora in cognitively inspired pedagogy. As can be expected from a theoretical framework that seeks to approach mental representations, one of the empirical methods that cognitive linguistics has relied on is psycholinguistic experimentation, which has made it possible to probe into the way linguistic information is categorized and organized in the mind, for example, and which in some cases has questioned assumptions made on the basis of introspection. Corpora, as another source of empirical evidence in cognitive linguistics, have provided a different – but complementary – perspective on language, for instance by revealing what language items are the most frequent in usage or how they cluster together in texts.

When trying to account for mental processes (including learning processes), corpora are arguably a less direct source of evidence than psycholinguistic experiments.

Advantages of corpora for applied cognitive linguistics. The first advantage of corpora is that they expose students to authentic language. This ties in with the usage-based approach in cognitive linguistics and the recommendation to "invest in the analysis of real language use" (Geeraerts, 2006). Yet, as we saw above, this recommendation has not always been adhered to in cognitive linguistics, and cognitive applications have tended to follow the same trend. Pedagogical experiments mostly rely on invented stimuli and a few cognitively inspired teaching methods.

By representing authentic language, corpora expose learners to the type 6 of language that they are likely to encounter in real-life interactions and that should therefore be most useful to them. As a special type of corpus, the learner corpus provides instances of authentic learner production, showing what learners tend to get right as well as what they tend to get wrong, with the latter pointing to possible areas for focus in teaching. Learner corpora that consist of data produced by learners at different stages in the learning process show how language knowledge develops and what can typically be expected of learners at certain proficiency levels, which can help set realistic goals for teaching and reasonable targets for language testing and assessment. Since corpora are supposed to be representative of a language or language variety, they can be used with confidence that they reflect what most speakers/writers in that context would say or write. All this leads Tyler and Ortega to note about usage-inspired L2 instruction that "corpus linguistics must be a key point of consultation in deciding the targets of instruction, the pedagogical contents of those targets, and the evaluation of whether the learning objectives have been met successfully" (Tyler & Ortega, 2018).

Another advantage is that language in corpora is contextualized, enabling students to see how different language items fit together within a sentence, paragraph, or text. This contrasts with the data generally used in applied cognitive linguistics, for which context may be very limited and inauthentic. The larger authentic context to which corpora give access should help learners come to the realization that, as acknowledged in both corpus linguistics and cognitive linguistics, language items tend to cluster together to form larger units, for example collocations such as make a wish or constructions which, in the CxG sense, correspond to form-meaning pairings and can cover the whole spectrum of word chunks from idioms to fully abstract combinations such as the ditransitive structure [Subj VObj1 Obj2].

The third major advantage of corpora is that they give access to quantitative information about language. This is particularly relevant for learners, given their tendency to overuse or underuse certain language items, as can be discovered in learner corpora. Being shown that perhaps is more frequent than maybe in a corpus of academic writing, for example, and that the opposite is true of a learner corpus, might encourage learners to favor the more frequent option in their academic texts. This is very precious information since "quantitative distributions matter and are part of the grammar" (Bybee, 2010).

Limitations. Despite their pedagogical benefits, corpora show a number of limitations. First, the information they provide is so diverse and detailed that it can be overwhelming for students. For less advanced learners, many of the examples taken from corpora may be too complex. This underlines the crucial role of teachers in corpus-based pedagogy, as they need to accompany students in their corpus explorations, especially in the early stages. Also, while numerous off-the-shelf corpora are readily available for teachers and/or students to use, certain languages are underrepresented in corpus linguistics and hence among corpora on the market.

Using cognitive principles in corpus-based pedagogy. A major advantage of cognitive linguistics is that, through the concept of categorization, it makes it possible to organize information in a way that should make sense to learners. Polysemous items, for example, are not just presented as a list of different senses, but as a network of related senses, with a central one (often called 'prototype') from which the others are derived by means of links such as specialization, metaphor, or metonymy on the preposition over (Tyler & Evans, 2011). Such links point to the "non-arbitrary nature of language" and create linguistic motivation, which facilitates the learning of the language items under examination, but can also provide learners with strategies to guess the meaning of new uses.

Another advantage of cognitive linguistics has to do with conceptualization, which means that there are different 'construals', that is, different ways of conceptualizing one and the same event and hence of encoding it through language. Corpus linguistics, having variation as one of its central concerns, can reveal the existence of different linguistic alternatives and highlight the many variables that seem to influence their choice. The findings, however, may not be directly applicable to teaching. Thus, the dative alternation has been shown to be influenced by variables such as the animacy, the definiteness, and the length of the noun phrases. Yet, students could hardly be expected to remember what combinations of factors are more likely to lead to the use of which construction.

A third advantage worth underlining is related to the cognitive claim that "language is not an autonomous cognitive faculty" (Croft & Cruse, 2004) but relies on general abilities 10 used for non-linguistic tasks as well (e.g., reasoning, visual perception, or motor activity). This means that learning a language may involve the use and development of other cognitive skills, including those that data-driven learning is said to contribute to, for instance, noticing, hypothesizing interpreting, critical thinking.

This also means that non-linguistic cognitive properties can be relied on to improve language learning. Visual or aural salience can thus help learners notice – and remember – certain language elements. Alliteration, for example, has been said to facilitate memorization, which should help with the learning of idioms such as bite the bullet.

The fact that language and thought are connected to the body and to physical experiences has as a consequence that many aspects of language can be described in more concrete terms and – importantly for pedagogical purposes – can be illustrated by means of visual representations such as pictures/diagrams and animations. Such representations are frequently found in the cognitive literature, and they are particularly common in applied cognitive linguistics. Being more semantically oriented, they can advantageously combine with the frequency-based representations found in corpus linguistics.

Corpus-driven approach. In this illustration of the possible symbiosis of corpus linguistics and cognitive linguistics for pedagogical purposes, the starting point is a corpus, and more precisely a concordance showing different uses of a target item. Despite the fact that it is therefore corpus-driven, it should be emphasized that the approach described here is well anchored in cognitive linguistics, most notably through the nature of cognitive linguistics as a usage-based model. While 'usage-based' can be understood as referring to a methodology that relies on the analysis of authentic language, originally it actually refers to the way in which language is acquired and processed (Taylor, 2006). Usage-based models claim that "language structure emerges from language use".

In other words, our knowledge of language is said to gradually develop on the basis of language as it is used by people around us ('usage events'). Words and sequences of words get entrenched after they have been encountered several times, and abstract schemas are built thanks to the many concrete

instances that are found in the language input we receive. The consequence of this principle is that language acquisition requires exposure to a great deal of language, so as to increase the depth of language knowledge as well as its width.

Cognition- driven approach. Originally, Norvig and Lakoff's (1987) network was established by means of intuition. Here, it has been enriched with information derived from corpora (Norvig & Lakoff's, 1987). All the senses are illustrated by means of authentic examples taken from the Frown (Hundt et al., 1999) and Switchboard (Godfrey et al., 1992) corpora, and the size of the boxes gives an approximation of the corpus frequency of the different senses, with 'move to destination' and 'do something' being the most common senses of TAKE.

Such a network can be used as a basis for further work on a reference corpus of English. In this illustration, the schematic representation of the network has been used in conjunction with bilingual corpora representing English and the learners' mother tongue (assumed to be French).

Students could be asked to examine the sentences and find out what is common to most of them, which should involve a reference to time. Such activities can help learners realize that the conceptual metaphor is shared by both languages, thus capitalizing on similarities and avoiding the possible suspicion that may be caused by the literal translation of metaphoric senses, but also that this metaphor can lead to slightly different construals in the two languages, a realization that should hopefully limit cases of negative transfer from the L1 among learners.

Conclusion

The article shows that cognitive corpus linguistics can lead to pedagogical applications that combine the benefits of corpus data (authenticity, quantification, genre diversification, accessibility of student work, etc.) with the benefits of cognitive principles that aim to facilitate the learning process (through linguistic motivation, enhanced relevance, rearrangement of form and meaning, etc.).

Although the article focuses on activities to be performed in a language lesson, cognitive corpus linguistics can also be used in lexicography or syntactic analysis.

Examples of its use in lexicography include a repertoire of Swedish constructions that focuses on problematic constructions for Swedish language learners, and G-FOL (Boas et al., 2016), a prototype online dictionary for English-speaking learners of German that draws users' attention to the differences between English and German frameworks/constructions.

Multimodal corpora consisting of videos may also be useful, given that the mental inventory of speakers contains multimodal constructs that represent gestures or facial expressions (Hoffman, 2021) and given the claim that "the acquisition of gestural repertoires poses a formidable challenge for language learners and teachers".

It should also be noted that while cognitive corpus linguistics is a fruitful combination for pedagogy, in which each framework partially compensates for the weaknesses of the other, the resulting teaching method is still subject to certain limitations, such as the time-consuming nature of data-driven teaching and the fact that cognitive principles such as linguistic motivation and embodiment do not apply to all language issues that students need to learn. Furthermore, the types of activities suggested here will not necessarily work in every language classroom. For example, activities based on language comparison will only be possible if the majority of students in the classroom speak the same native language.

It must be acknowledged that neither cognitive linguists nor corpus linguists have yet exhausted the richness or pedagogical uses of language, let alone their large-scale implementation in education (De Knop & Meunier, 2015). However, this should not prevent them from joining forces to develop new teaching methods that can be offered to teachers as a complement to existing methods that have already proven their value with students.

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