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Bridges between Cognitive Linguistics and Second Language Pedagogy: The Case of Corpora and Their Potential

Abstract

Cognitive linguistics offers a way out of the dilemma between helpful, productive linguistics and helpless, unproductive linguistics in second language pedagogy. This paper applies cognitive linguistics insights to grammatical instruction of the verb *find* and its complementation in communicative activities, searching for descriptively adequate, intuitively acceptable, and easily accessible accounts of how the verb *find* functions and how widely various uses of the verb *find* are systematically related to one another. This paper also claims that the potential of learner corpora and the concept of entrenchment in cognitive linguistics make a positive contribution to grammatical instruction. In second language pedagogy, a data-driven analysis on the basis of both a learner corpus and a native speaker corpus is essential to explain the concept of entrenchment. Consequently, this paper shows some significant results in the data-driven analysis with respect to not only complementation patterns of the verb *find* that Japanese-speaking learners of English use, but also those that native speakers of English use.

1. Introduction

Second language pedagogy is a truly multidisciplinary endeavor, because a matter of pedagogy is a matter of linguistics as well as a matter of acquisition. Every linguist does recognize how essential every experience and substantial knowledge in the area of language pedagogy is. However, the issue as to whether or not much research that we linguists have carried out is helpful or productive has sharply divided the linguists. Generative linguistics has focused on pure scholarship for its own sake. The only motivation is a desire to understand language much better. This tradition is most clearly represented by Noam Chomsky, who denies that linguistics has, can have, or indeed should have any relevance to language teaching

(see e.g., Olson et al. 1991). On the other hand, cognitive linguistics has claimed that the practical benefits are partly evident, because any major innovation in linguistic theory is bound, sooner or later, to have an impact on the teaching of grammar in foreign language pedagogy (see e.g. Achard & Niemeier 2004; Langacker 2001; Radden & Dirven 2007; Taylor 1993). One of the motivations is a desire to improve language teaching at school to some extent. The aim of this paper is to defend the latter idea, which implies that linguistics contributes substantially to language teaching, although this paper will not of course indicate that every part of academic research has a clear payoff in terms of practical benefits. Specifically, this paper will apply cognitive linguistic insights to grammatical instruction of the verb *find* and its complementation in communicative activities on the basis of the corpus-based approach, that is to say, the usage-based approach.

2. Cognitive linguistics

In order to provide my approach in this paper with an appropriate context, it is necessary first to discuss cognitive linguistics. Cognitive linguistics originally emerged in the 1970s and arose out of dissatisfaction with dominant formal approaches to language at that time. Some researchers such as Fillmore (1975), Lakoff & Thompson (1975), and Rosch (1975) rejected the dominant ideas that syntax is separate from other aspects of language, and that language is separate from cognition. Moreover, cognitive linguistics has always been strongly influenced by theories and findings from the other cognitive sciences, particularly cognitive psychology and Gestalt psychology. Cognitive linguistics therefore acknowledges that language is part of, dependent on, and influenced by human cognition, including human perception and categorization, and that language develops and changes through human interaction and experiences in the world (see e.g., Fillmore 1975; Lakoff 1987; Langacker 1987; Talmy 2000a, 2000b).

Cognitive linguistics practice could be roughly divided into two main areas of research: cognitive semantics and cognitive grammar. Although the study of cognitive semantics and the one of cognitive grammar are occasionally separate in practice, their domains of inquiry are tightly linked. Cognitive semantics is concerned with modeling the human mind as much as it is concerned with investigating linguistic semantics. Cognitive semantics is not a single unified framework. However, Evans et

al. (2007) point out that there are four guiding principles characterizing cognitive semantics: (i) conceptual structure is embodied; (ii) semantic structure is conceptual structure; (iii) semantic representation is encyclopedic; and (iv) semantic construction is conceptualization. Some significant theories and approaches in cognitive semantics best exemplify the four guiding principles.¹ In this paper, one of the significant theories and approaches in cognitive semantics, cognitive lexical semantics approach is important. Cognitive lexical semantics takes the position that lexical items are conceptual categories. A word represents a category of distinct related meanings. In particular, Lakoff (1987) argues that a lexical item represents a type of complex category, which he calls a radical category. Therefore, word meanings are stored in the mental lexicon as highly complex structured categories of meanings.

Cognitive grammar is concerned with modeling the language system rather than the nature of mind itself. This means that meaning is central to cognitive grammar. Cognitive grammar assumes cognitive semantics and builds a model of grammar which is consistent with the assumptions and findings of research in cognitive semantics. In addition to this, the two guiding principles of cognitive grammar are (i) the symbolic thesis, and (ii) the usage-based thesis. The symbolic thesis holds that the fundamental unit of grammar is a form-meaning pairing, that is to say, a symbolic unit. All linguistic forms, from single morphemes to words, phrases, idioms, clauses, and sentences, contribute to and express meaning. The usage-based thesis is primarily concerned with the characterization of language as it is spoken and understood, as well as with the dynamics of its use.² Langacker (1987: 494) states that the usage-based thesis constitutes a

¹ The significant theories and approaches include image-schema theory, encyclopedic semantics approach, categorization and Idealized Cognitive Models (ICMs) approach, cognitive lexical semantics approach, conceptual metaphor theory, conceptual metonymy approach, Mental Spaces theory, and conceptual blending theory.

² The usage-based thesis is central not only to cognitive grammar but also to language acquisition which takes a cognitive linguistic perspective. Tomasello (2000a: 237–238) argues that usage-based models constitute strong theoretical frameworks for the description of child language acquisition because they do not demand that a child's grammar be identical to the adult system. In a usage-based model, the goal of child language acquisition research is to characterize the steps by which the child's inventory of conventionalized units comes to resemble the adult's. It predominantly involves the investigation of the development of the cognitive abilities that allow children to eventually master the adult system.

non-reductive approach to linguistic structure. The goal of a usage-based thesis is to depict the complexity of language use.

3. Applying cognitive grammar to pedagogical grammar

Cognitive linguistics claims that the learner's interlanguage resembles a child's grammar where it is composed of an assortment of eclectic constructions at various levels of systematicity, abstraction, and productivity. Second language learners are attempting to master the specific array of symbolic units that represents the linguistic conventions of the target language. In a developing second language system, the target units are in direct competition with the native ones because they both represent alternative ways of construing the same reality. Second language learning can be viewed as a gradual process by which the target system gains increasingly more differentiation and autonomy from the native one, because mental experience must be organized so as to conform to the conceptual structures symbolized by the available symbolic units. Thus, it should be emphasized here that learning a foreign language will involve not only learning the forms of the language but also simultaneously learning the conceptual structures associated with these forms.

The nature and purpose of pedagogical grammar requires that it focus on learning problems. The function of pedagogical grammar is to promote the learner's insight into the foreign language system. In essence, promoting the learner's insight means reducing the perceived arbitrariness of the foreign language system. For this reason, it is not enough to merely inform the learner that a particular element belongs to a given formal category. Also, it is not enough to merely state that such-and-such an expression is grammatically correct while other word formations are grammatically incorrect. Especially, grammatical instruction communicative methodologies has been at the core of the pedagogical literature. The central concern is the perceived discrepancy between communicative competence and accuracy in language use. Most teachers agree that communicative activities should constitute the most important focus of the foreign language lesson, and that students' enthusiasm to express themselves should not be stifled by undue expectations placed upon accurate grammatical production. Accordingly, the grammatical instruction in communicative approaches constitutes one of the hardest pedagogical challenges that foreign language teachers, especially non-native teachers face, because obviously the nature of grammatical

instruction depends critically on each teacher's view of the nature of rules and overall organizations of the target system, as well as his/her beliefs about the specificity of grammatical knowledge to language acquisition. However, the potential of learner corpora in a data-driven learning approach explicitly makes a positive, objective contribution to such grammatical instruction.

Learner corpora are strongly related to the usage-based thesis. Learner corpora could be applied to pedagogical material in at least three different ways: (i) they can help to decide what features should be particularly emphasized in teaching or even lead to the introduction of so far neglected elements; (ii) results from learner corpus studies can give indications on how to teach certain features; and (iii) results on developmental sequences can help to determine in what order language features should be taught. In other words, the more direct and probably more important way is to use a learner corpus to identify what is particularly difficult for a certain group of learners. The more indirect and more problematic way is to derive insights about second language acquisition from learner corpus analyses and to draw implications for teaching and possibly textbook writing from these insights.

In a corpus-based approach, that is to say, a usage-based approach to language, the concept of entrenchment is well known. 'Entrenchment pertains to how frequently a structure has been involved and thus to the thoroughness of its mastery and the ease of its subsequent activation' (Langacker 1991: 45). Entrenchment is interrelated with input. Specifically, entrenchment can be identified by an adjustment of the connection weights and can be brought about by the occurrence of a specific pattern of activation which renders more likely the occurrence of the same or a similar pattern. In cognitive linguistics, linguistic constructions are seen as being abstracted from usage events by the reinforcement of recurring commonalities. In second language acquisition, the role of entrenchment has been widely accepted as one of the most decisive factors in acquiring a second language.³ It is thus significant to pay attention to individual occurrences of linguistic items and at the same time to collect numerical data about types of construction. In second language pedagogy, a data-driven analysis on the basis of both a learner

³Tomasello (2000b: 70) points out that an important aspect of first language learning is some form of imitative learning and that 'it is also important that children seem to have special difficulties in going beyond what they have heard when they have heard it multiple times, that is, when it is entrenched.'

corpus and a native speaker corpus is essential to explain the concept of entrenchment.

This paper focuses on both complementation patterns of the verb *find* that Japanese-speaking learners of English use and those that native speakers of English use, and shows some significant results in the data-driven analysis on the basis of both one learner speaking corpus and one native speakers' speaking corpus. Obviously, native speaker corpora are indeed useful for the improvement of language teaching. They are useful mainly because they can reveal what native speakers of the language in question typically write or say either in general or in a certain situation better than native speaker intuition. In deciding what content we should teach, we teachers not only need to focus on patterns revealed in the data shown in native-speaker corpora as showing target frequencies, but also need to focus on the data shown in learner corpora as showing learning gaps and relative stages in mastery. For second language teaching, nevertheless, it is not only essential to know what native speakers typically write or say, but also what the typical difficulties of the learners of a certain language, or rather of certain groups of learners of a certain language are.

4. The verb find

The reason why this paper focuses on the verb *find* is two-fold. One is that every Japanese-speaking learner of English knows the verb *find*. The other is that most of Japanese-speaking learners of English are not fully aware of the fact that the familiar verb *find* can take various types of complements, which gives rise to a situation where there are remarkably few Japanese-speaking learners of English who have a good command of *find*. This paper will defuse such an uncomfortable situation by focusing on the complementation patterns of *find* on the basis of both one Japanese-speaking learner corpus and one native speaker corpus.

In order to give my approach an appropriate context, it is necessary to explain the various complementation patterns of the verb *find* syntactically and semantically. Roughly speaking, *find* can take nine syntactic patterns, as in (1).

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(1) a. find + NP
b. find + NP + NP
c. find + that-COMP
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- d. find + that-deleted-COMP
- e. find + wh-COMP
- f. find + NP + ADJ
- g. find + NP + to be
- h. be found (passive)
- i. find out

Semantically, find is mainly divided into ten areas, as in (2)–(11), but the various meanings of find are not always easy to keep apart.

(2) GET BY SEARCHING

- a. I can't find the car keys.
- b. Can you find me my bag?
- c. The child was eventually found safe and well.

(3) SEE BY CHANCE

- a. Look what I've found!
- b. I didn't expect to come home and find him gone.

(4) DISCOVER STATE OF SOMEONE/SOMETHING

- a. She woke to find a man by her bed.
- b. He tried the door and found it unlocked.
- c. She looked at her glass and was amazed to find it was empty.

(5) DO SOMETHING WITHOUT MEANING TO

- a. She woke up and found herself in a hospital bed.
- b. We came home and found him asleep on the sofa.
- c. I was disappointed to find that they had left already.
- d. He found he was shivering.

(6) LEARN SOMETHING BY STUDY

- a. I managed to find a solution to the problem.
- b. Can you find me a hotel?
- c. His study found that married men and women had similar spending patterns.

(7) THINK/FEEL

- a. Will Gary and Gail find happiness together?
- b. She finds it a strain to meet new people.

c. She found the work very dull.

(8) EXPERIENCE

- a. You might find that his work improves now he's at a new school.
- b. I find people are often surprised at how little it costs.
- c. We found the beds very comfortable.
- d. I found the people to be charming and very friendly.

(9) EXIST IN A PLACE

You'll find this style of architecture all over the town.

(10) GET ENOUGH MONEY/TIME ETC

He's struggling to find the time, the support, and the resource to do all this.

(11) IN A COURT OF LAW: to make an official decision in a court of law *The jury found him guilty of manslaughter*.

The ten semantic areas correlate in interesting ways with the syntactic patterns where *find* can occur, as shown in Table 1.

Table 1. Semantic areas correlating with syntactic patterns where *find* can occur.

	NP	NP+NP	that-COMP	that-deleted	NP+ADJ	NP+to be
1. GET BY SEARCHING	0	0			0	
2. SEE BY CHANCE	0				0	
3. DISCOVER STATE OF	C			0	0	
SOMETHING/SOMEONE	0			0	0	
4. DO SOMETHING	O		0	0	0	
WITHOUT MEANING TO	0		O	0	0	
5. LEARN SOMETHING	0	0	0			
BY STUDY	0	0	O			
6. THINK/FEEL	0	0			0	
7. EXPERIENCE			0	0	0	0
8. EXIST IN A PLACE	0					
9. GET ENOUGH	C					
MONEY/TIME ETC.	0					
10. IN A COURT OF LAW					0	

In this section, it is pivotal to demonstrate the complexities of the complementation patterns of *find*, that is to say, the ones of various *find*-constructions. A construction is defined here as follows: A construction constitutes a conventional form-meaning pairing. Within the functional and the cognitive paradigm, it is generally accepted that if one

verb can be followed by more than one type of complement, there must be semantic differences among the sentences with different pragmatic effects. Most previous studies have attempted to derive each semantic characterization from the different type of complement associated with it. Borkin (1973, 1984), for example, provides examples of such differences, as in (12).

- (12) a. I find that this chair is uncomfortable.
 - b. I find this chair to be uncomfortable.
 - c. I find this chair uncomfortable.

(Borkin 1973: 46)

Each sentence in (12) has the same propositions that the chair is uncomfortable; however, the differences among them are closely linked to 'whether or not a complement represents a fact based on experience or, rather, describes the experience itself' (Borkin 1984: 79). According to Borkin (1984), (12a) might be used for a judgment based on indirect evidence through asking people or learning the results of consumer reaction tests, but (12c) implies that *I* myself actually sit on the chair and directly experience the discomfort. (12b) might be used in either circumstance. Verspoor (2000), agreeing with Borkin, modifies her explanation. To explicate the distinctions among (12), she applies the concept of level of consciousness, which Edelman (1989) demonstrates, to the linguistic analysis of English complementation, as summarized in Table 2.

Table 2. Level of consciousness with respect to English complementation

Verspoor's level	level 1	level 2	level 3
level of consciousness which Edelman demonstrates	perceptual categorization	primary consciousness	higher order consciousness
interaction between conceptualizer and object	direct	rational /indirect	symbolical
time/space of object	here / now	not here / not now	not here / not now
complement	bare infinitive -ing-complement predicate adjunct	to-infinitive	that-complement

The differences in meaning among the three different sentences in (12) are instances of gradient phenomena which signify a shift from a relatively objective to a more subjective construal. However, it should be recognized that the previous accounts yield two further questions about the

relations between constructions and the lexical item *find*. First, the '*find+that-*COMP,' the '*find+NP+to be+*ADJ,' and the '*find+NP+ADJ*' constructions are not all the constructions that the verb *find* can take. In addition to these three constructions, *find* can take various types of constructions, as illustrated in Table 1. Second, the previous accounts cannot explain semantic differences among the following sentences, as in (13). Each sentence in (13) has the same syntactic pattern, that is to say, the '*find+NP+ADJ*' construction, but each sentence including the same lexical item *find* in (13) conveys a different meaning.

- (13) a. I found the drawer open.
 - b. The jury found him guilty.
 - c. You'll find it exciting.

What is crucial here is the appropriate status of various types of constructions that the verb *find* can take. Moreover, it is necessary to explicate what the nature of such constructions is. This following subsection will explore the relations between the constructions that *find* can take and the lexical item *find*.

4.1 The 'find+that-COMP' and the 'find+that-deleted-COMP' constructions

This paper has to explain the *that*-complement on a different level from the other complements. It does not merely denote events or states, but rather denotes a mental representation in the form of a proposition with any fixed time sequence between the main clause and the complement. The complementizer *that* conveys some conceptual distance.⁴ In (14), the

⁴ As Lakoff and Johnson (1980: 128) point out, English has the conventional metaphor 'CLOSENESS IS STRENGTH OF EFFECT.' The closer the position of the subject is to the one of the object or of the adjective, the stronger the relationship between them is. The effect of syntax is to indicate the bond among the words; therefore, Haiman (1984) demonstrates that closeness indicates the strength of that effect, as in (i) and (ii).

⁽i) The linguistic distance between expressions corresponds to the conceptual distance between them.

⁽ii) The linguistic separateness of an expression corresponds to the conceptual ndependence of the object or event which it represents (Haiman 1984: 782–783).

relationship between the subject of the verb *find* and the *that*-complement is increasingly attenuated as the number of words between them increases.

(14) I find that this chair is uncomfortable.

As Langacker (1991: 450) mentions, the conception imputed to the subject is abstract because the *that*-complement is a finite clause. In the case of a finite clause, the situation is construed more objectively. Specifically, Langacker points out that the number of particular grammatical elements reflects the semantic contrasts between indirect and direct experience. The more grammatical elements the complement has, the more abstract and propositional the conceptual import of the complement is, as in (15). The most indirect relationship between Susan and the experience of discomfort is partly ascribable to the conceptual distance conveyed by the complementizer *that*, as in (15).

(15) Susan found that the bed was uncomfortable. (Langacker 1991: 450)

However, Langacker's view is not adequate to explain *that*-deleted constructions. Some linguists have proposed explanations for the fact that the complementizer *that* is sometimes missing and sometimes present (see e.g. Bolinger 1972; Borkin 1984; Elsness 1984), and the verbs used in most studies are *think* and *guess*. It is surprising that few linguists treat the verb *find* to explain *that*-deleted constructions. With respect to the verb *find*, *that*-deleted constructions can occur in the semantic areas of DISCOVER STATE OF SOMEONE OR SOMETHING, as in (4c), repeated here as (16), DO SOMETHING WITHOUT MEANING TO, as in (5d), repeated here as (17), and EXPERIENCE, as in (8b), repeated here as (18).

- (16) DISCOVER STATE OF SOMEONE OR SOMETHING She looked at her glass and was amazed to find it was empty.
- (17) DO SOMETHING WITHOUT MEANING TO *He found he was shivering.*
- (18) EXPERIENCE

 I find people are often surprised at how little it costs.

This indicates that the *that*-deleted construction retains more epistemic construal than the *that*-construction, and that when the distinction between main and complement clauses is eroded, the omission of *that* is a strong concomitant (Thompson & Mulac 1991b). It should be emphasized here that there are no *that*-deleted constructions in the semantic area of LEARN SOMETHING BY STUDY. To put it another way, *that*-constructions are always needed in the LEARN SOMETHING BY STUDY area, as in (19), because the epistemic construal cannot occur in the LEARN SOMETHING BY STUDY area.

- (19) a. A post mortem examination found that she died from asphyxiation.
 - b. Often I find that anger and resentment are at the bottom of the problem.

(Collins COBUILD 2001)

The shift from the *that*-construction to the *that*-deleted construction is often regarded as grammaticalization. The typical example is the verb *think*, as in (20).

- (20) a. I think that we are definitely moving towards being more technological.
 - b. I think exercise is really beneficial to anybody.
 - c. It's just your point of view ... what you like to do in your spare time I think.

(Thompson & Mulac 1991a: 315)

(20a) consists of the main clause *I think* and a subordinate clause introduced by *that*. (20b) is fairly similar, but the only difference is that the complementizer *that* has been omitted. Yet this explanation does not apply for (20c). This suggests that *I think* functions as a kind of additional commentary, comparable to an adverbial like *maybe*. Once this adverbial interpretation has been established for (20c), there is no reason why it should not be extended to (20b) as well. As a result, we may now understand both (20b) and (20c) as consisting of a main clause plus the adverbial phrase *I think*, which is placed either at the beginning or at the end.

Though superficially the difference among (20) is not particularly great, the effects in terms of linguistic theory are quite significant. Instead of interpreting (20b) and (20c) as slight syntactic variations of the basic pattern in which *I think* represents the main clause, we are faced with a

grammaticalization process which completely reverses the weight of the sentence constituents. The phrase *I think* is turned into an adverbial, and a subordinate clause in (20a) assumes the status of main clause in (20b) and (20c). If we try to identify the driving force behind this, we find that this change is most probably motivated by the requirements of discourse. Grammaticalization along these lines has thus been subsumed under the 'discourse-to-morphosyntac perspective' (Traugott & Heine 1991: 3). However, this explanation cannot apply for the verb *find*, because the verb *find* does not undergo sentence lifting, or *slifting*, as Ross (1973: 136) calls it, as in (21).

(21) *It pays to be honest I find.

This point indicates a significant difference between the verb *think* and the verb *find*, although *find* is sometimes treated as an equivalent of the verb *think*.

4.2 The 'NP+find+to be+ADJ' construction

The 'to be' complement construction, as in (22), can occur only in the semantic area of EXPERIENCE.

(22) I find this chair to be uncomfortable.

As Langacker (1991) points out, (22) suggests an overall judgment that goes beyond immediate experience, because the verb *be* implies that *I* myself conceive of the chair's uncomfortableness as extending through some span of time. The grammatical element *to* conveys that there is no specification of temporal coincidence.

Similarly, (23a) is acceptable because the speaker can directly report a perceptual experience of someone else only as extending through some span of time. (23b) is not acceptable because we cannot construe a perceptual experience of someone else directly and immediately.

- (23) a. I find sewing to be refreshing to Jane.
 - b. *I find sewing refreshing to Jane.

(Borkin 1984: 79)

Moreover, Wierzbicka (1988: 136) notes the contrast, as in (24), but she does not explain the fact that whereas (24b) seems quite normal, (24a) does not.

- (24) a. *He found her to be Mexican.
 - b. He found her to be intelligent.

(Wierzbicka 1988: 136)

Now this paper can answer this. The statement 'she is Mexican' is far less likely to be a conclusion which one draws from dealing with a person, or to be a judgment on the basis of experience. It is the sort of information that one is usually told outright by the person concerned or by someone else. However, as Duffley (1992: 153) points out, if *Mexican* is interpreted as evoking a type of personality which one see in someone by their behavior, then (25) seems less strange.

(25) He found her to be very Mexican.

Needless to say, in this case, we need some span of time to judge.

4.3 The 'find+NP+ADJ' construction

This subsection discusses three subtypes of the 'find+NP+ADJ' constructions. Each subtype involves a different semantic relationship, although it shows the same syntactic pattern. Such a relationship is apparently not predictable from the meanings of the adjective and the verb find. The main focus of this subsection is the relation among the three subtypes.

First, as in (26), the 'find+NP+ADJ' construction in the semantic areas expressing a particular kind of objective judgment is an amalgam of two types of sentences, which present both at the same time and at the same place.

- (26) a. I found the drawer open.
 - b. I found him alive.
 - c. I found him asleep on the sofa.

At the moment that the subject actually finds the object, the subject has to recognize what happens to it, that is to say, the situation that the adjective describes. For instance, (26c) asserts two things: I found him on the sofa and he was asleep on the sofa then. These two sentences are an example of a non-integrated sequence of situations. English allows the same content to be expressed with one sentence, as in (26c), which represents an integrated conceptual structure.⁵ Similarly, (27) expresses a particular kind of official judgment. (27) is also an amalgam of two sentences, as in (28).

- (27) The jury found the prisoner guilty.
- (28) The jury found the prisoner guilty. The jury's statement established the prisoner's guilt.

In this case, *find* means 'to decide someone to be' and in fact, *find*, which is used in the performative meaning, has a performative and resultative force; thus, this construction itself may convey the causative meaning. (29) shows that causation-direction strengthening can go a step further to an extreme.

(29) We find the defendant guilty.

This is a typical example in which to say is to perform. The speaker we alters the external status or condition of an object the defendant only by making the utterance because the person performing the speech act has to have the authority to do so. There is an important constraint on the use of find, where only a certain person, namely a judge or a jury member, is qualified to use this utterance.

(ii) a. Did you find him alive? Yes, I saw him and he was alive then.

⁵ The corresponding question sentence, as in (i), does not necessarily mean that you assume that I did actually find him. The question is used when you want to know both whether I found him and whether he was alive. An acceptable affirmative answer would be (iia) and (iib). You would not be satisfied with either (iic) or (iid).

These examples confirm that this construction can be construed as an integrated conceptual structure.

⁽i) Did you find him alive?

b. Did you find him alive? Yes, I did.

c. *Did you find him alive? Yes, I saw him.

d. *Did you find him alive? Yes, he was alive.

Example (30) has the same syntactic form as (31), but the semantic shift from (30a) to (30c) is completely different from the one from (31a) to (31c).

- (30) a. The judge found that the defendant was guilty on 30 counts.
 - b. The judge found the defendant to be guilty on 30 counts.
 - c. The judge found the defendant guilty on 30 counts. (Borkin 1984: 81)
- (31) a. I find that this chair is uncomfortable.
 - b. I find this chair to be uncomfortable.
 - c. I find this chair uncomfortable.

(Borkin 1973: 46)

Whereas the semantic shift in (31) occurs only in the semantic area of EXPERIENCE, the one in (30) occurs in three different areas. According to Borkin (1984), (30b) and (30c) express a judicial decision, whereas (30a) can only be reported as a non-juridical speech act. Thus, (30a) occurs in the semantic area of LEARN SOMETHING BY STUDY, (30b) of EXPERIENCE, and (30c) of IN A COURT OF LAW. The semantic shift in (30) takes place across different semantic areas, that is to say, from LEARN SOMETHING BY STUDY, EXPERIENCE to IN A COURT OF LAW.

Second, (32) expresses a particular kind of ascription. It should be noted here that (32) is subtly different from the others so far discussed.

- (32) a. I found the chair comfortable.
 - b. She found the work very dull.
- (32) does not actually assume that the object possesses the property ascribed to it by the adjective, either before or after the action indicated by the verb. (32) expresses subjective judgment rather than objective judgment, as in (26) and (27) mentioned above.

Third, there are cases where the 'find+NP+ADJ' construction refers not to a definite or limited object, but requires an inference to be interpreted correctly, as in (33).

(33) You'll find it exciting.

Example (33) expresses the speaker's reaction to something or someone, that is to say, a speaker-based function. Syntactically, the object is it or that, and semantically, it is not clear whether it is exciting or not after or before the action indicated by the verb, as in (34) and (35).

(34) King: Eva Marie, you made the famous "North by Northwest." We're going to be seeing a clip from that later. What was he like to work for?

Eva Marie: I found it very interesting because I had made "Waterfront" with Kazan and had worked with Actors Studio people, studied there, and he was (LKL, Aug. 25, 2003)⁶ completely different...

(35) King: *Is it difficult to direct yourself?*

Costner: <u>I don't find that difficult.</u> I traditionally have given myself fewer takes, but I know going in. I do things a little backwards than the rest of the community right now... (LKL, Aug. 9, 2003)

In Eva Marie's reply, as in (34), the word it has no definite antecedent in the preceding speech, but we understand her meaning through inference. In (35), however, the antecedent of the word *that* is more definite.

To summarize this section, linguistic meaning is the result of integration of linguistic prompts at the conceptual level. Linguistic meaning is equated with multifaceted and multilayered conceptualization, although language can be represented only in linear order. To put it another way, linguistic meaning can ultimately be traced back to how we actually experience our world. This section demonstrates that various types of find-constructions are intricately interrelated in our conceptualization.

5. The analysis of NICT JLE Corpus

To explore both the complementation patterns of the verb find that Japanese-speaking learners of English use and those that native speakers of English use, this paper uses two kinds of corpora, the NICT JLE Corpus as one learner speaking corpus, and the CNN Larry King Live Corpus as one native speakers' speaking corpus. 7 1281 subjects as Japanese-speaking

⁶ LKL means the CNN Larry King Live Corpus.

⁷ The NICT JLE Corpus (The National Institute of Information and Communications Technology Japanese Learner English Corpus) was developed in Japan in 2004 by NICT (National Institute of Information and Communications Technology). The NICT

of

subjects

learners of English in the NICT JLE Corpus are divided into three groups, on the basis of SST (Standard Speaking Test), as shown in Table 3.8

	GROUP 1		GROUP 2			GROUP 3				
	level 1	level 2	level 3	level 4	level 5	level 6	level 7	level 8	level 9	SUM
the number	3	35	222	482	236	130	77	56	40	1281
the number	(1.2%)	(12 50%)	(95 20%)	(56 00%)	(27.9%)	(15 20%)	(11 50%)	(22 40%)	(22 10%)	(100%)

848

(66.2%)

173

(13.5%)

1281

(100%)

Table 3. The number of subjects in the NICT JLE Corpus

(20.3%)

Each group obviously has a different degree of understanding of the complementation patterns of the verb *find*, and at the same time it is shown what learners at each level need to learn. We teachers decide what we should teach our students at each level, and the contents that we select should never be arbitrary and biased. For teachers, especially non-native teachers, they should be based on the well-established reasons through the corpora.

First, learners at an elementary level, that is to say, Group 1, use the 'find+NP' construction very frequently. However, learners at Group 1 can barely use other find-constructions such as the 'find+that-COMP' and the 'find+NP+ADJ' constructions, as shown in Table 4 and Table 5.

JLE Corpus is a speaking corpus and involves about 325-hour data from 1281 Japanese subjects (643 males and 638 females) and 20 native speakers of English. The CNN Larry King Live Corpus is a self-produced corpus and includes all the scripts from Jan.1, 2004 to Dec. 31, 2004. It is downloaded from the website of INTERATNIONAL CNN.COM (http://edition.cnn.com/). CNN Larry King Live is the CNN's longest-running interview program.

⁸ SST was jointly developed by ACTFL (American Council on the Teaching of Foreign Languages) and a Japanese company ALC. SST is based on OPI (Oral Proficiency Interview) developed by ACTFL and follows ACTFL Proficiency Guidelines. SST is an interview-style test, and it is designed to test the speaking ability of Japanese-speaking learners of English.

Table 4. Percentage of various *find*-constructions in the NICT JLE Corpus and the CNN Larry King Live Corpus (actual frequencies in parentheses).

	NICT GROUP 1 (level 1-3)	NICT GROUP 2 (level 4-6)	NICT GROUP 3 (level 7-9)	NICT SUM (level 1-9)	NICT NATIVE SPEAKER	CNN Larry King Live (Jan.1, 2004–Dec.31, 2004)
find+NP	83.3% (30)	73.8% (593)	78.2% (158)	75.0% (781)	79.1% (53)	50.1% (1005)
find+NP+NP	0 (0)	0.1%	0.5%	0.2%	0 (0)	0.7% (14)
find+that-COMP	0 (0)	4.0% (32)	5.5% (11)	4.2% (44)	1.5%	3.6% (72)
find+that-deleted	5.6%	9.8% (79)	2.5% (5)	8.2% (85)	1.5%	1.4% (27)
find+wh-COMP	2.8% (1)	0.5%	0.5%	0.6%	1.5%	0.5% (10)
find+NP+ADJ	0 (0)	1.0% (8)	2.5% (5)	1.2% (13)	4.5%	8.0% (160)
find+NP+to be	0 (0)	0 (0)	0 (0)	0 (0)	1.5%	0.7% (14)
be found (passive)	0 (0)	0.3% (2)	0 (0)	0.2%	0 (0)	11.3% (226)
find out	0 (0)	5.9% (47)	6.9% (14)	5.9% (61)	10.4%	16.7% (336)
ungrammatical	0 (0)	1.7% (14)	2.5% (5)	1.8% (19)	0 (0)	2.0% (41)
find+NP-deletion (ungrammatical)	8.3% (3)	2.9% (23)	1.0%	2.7% (28)	0 (0)	0 (0)
Not otherwise classified	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	5.1% (102)
TOTAL	100% (36)	100% (803)	100% (202)	100% (1041)	100% (67)	100% (2007)

We should also teach certain constructions in addition to the 'find+NP' construction to the Group 1 students. This paper has chosen the expression 'find something difficult, easy, or interesting,' as in (36), because Longman Wordwise Dictionary (2001) contains this expression.⁹

⁹ Longman Wordwise Dictionary provides new practical solutions for students at pre-intermediate, by focusing on the 2000 key words. According to Longman Wordwise Dictionary (2001: vi), if students learn 2000 basic words of English, they will be able to understand 80% of the English language.

Table 5. Percentage of various *find*-constructions in the NICT JLE Corpus (actual frequencies in parentheses).

		GROUP	1		GROUP 2	2		GROUP 3	3	
	level	level	level	level	level	level	level	level	level	CLIM
	1	2	3	4	5	6	7	8	9	SUM
the number of	3	35	222	482	236	130	77	56	40	1281
subjects		260			848			173		1281
find+NP	0	100%	81.3%	77.0%	68.0%	78.8%	84.2%	73.8%	71.7%	75.0%
jina+Ni	(0)	(4)	(26)	(268)	(210)	(115)	(80)	(45)	(33)	(781)
find+NP+NP	0	0	0	0.3%	0	0	0	1.6%	0	0.2%
jina+ini +ini	(0)	(0)	(0)	(1)	(0)	(0)	(0)	(1)	(0)	(2)
find+	0	0	0	1.7%	6.5%	4.8%	5.3%	6.6%	4.4%	4.2%
that-COMP	(0)	(0)	(0)	(6)	(20)	(7)	(5)	(4)	(2)	(44)
find+that-deleted	0	0	6.2%	9.5%	10.4%	8.9%	3.2%	1.6%	2.2%	8.2%
COMP	(0)	(0)	(2)	(33)	(32)	(13)	(3)	(1)	(1)	(85)
find+	0	0	3.1%	0.3%	0.6%	0.7%	1.1%	0	0	0.6%
wh-COMP	(0)	(0)	(1)	(1)	(2)	(1)	(1)	(0)	(0)	(6)
find+NP+ADJ	0	0	0	0.6%	1.3%	1.4%	0	4.9%	4.4%	1.2%
jiiiu+ivi +AD3	(0)	(0)	(0)	(2)	(4)	(2)	(0)	(3)	(2)	(13)
find+NP+to be	0	0	0	0	0	0	0	0	0	0
jina+ivi +io be	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
be found	0	0	0	0	0.3%	0.7%	0	0	0	0.2%
(passive)	(0)	(0)	(0)	(0)	(1)	(1)	(0)	(0)	(0)	(2)
find out	0	0	0	5.5%	8.4%	1.4%	4.2%	11.5%	6.5%	5.9%
jina oui	(0)	(0)	(0)	(19)	(26)	(2)	(4)	(7)	(3)	(61)
ungrammatical	0	0	0	1.7%	1.6%	2.0%	2.1%	0	6.5%	1.8%
ungrammaticar	(0)	(0)	(0)	(6)	(5)	(2)	(2)	(0)	(3)	(19)
find+NP-deleted	0	0	9.34%	3.4%	2.9%	1.4%	0	0	4.4%	2.7%
(ungrammatical)	(0)	(0)	(3)	(12)	(9)	(2)	(0)	(0)	(2)	(28)
TOTAL	0	100%	100%	100%	100%	100%	100%	100%	100%	100%
TOTAL	(0)	(4)	(32)	(348)	(309)	(146)	(95)	(61)	(46)	(1041)

(36) I find math very difficult.

This expression means THINK OR FEEL. To express what I think or feel is very important in a communicative activity. The CNN Larry King Live Corpus shows that native speakers of English use this construction, as in (37).

(37) Don't forget, on Monday night, a very special guest. We can't announce it until early Monday morning, sometime after midnight Sunday night. But <u>I think you'll</u> find it very interesting. (LKL, July 9, 2004)

Such an expression can also be used to express the speaker's reaction to something or someone. In sum, the learners in Group 1 need to learn both

the 'find+NP' construction and the expression 'find something difficult, easy or interesting.'

Next, learners at an intermediate level, that is to say, Group 2, tend to overuse both the 'find+that-COMP' and the 'find+that-deleted-COMP' constructions, as in (38).

In fact, the verb *find* can take both the *that*-complement and the *that*-deleted constructions, but they are semantically complicated, as mentioned in the previous section. It is doubtful whether learners in Group 2 understand under what circumstances they should use the two constructions. The learners of Group 2 also have a greater tendency to understand that the meaning of *find* is GET BY SEARCHING. In other words, it appears that the learners in Group 2 cannot comprehend that *find* has different kinds of meanings.

Table 6. Temporal relationships between the main verb and the subclausal verb in the NICT JLE Corpus (that-C = that-COMP, that-D = that-deleted- COMP).

		present-present	past-past	present-past	past-present	not otherwise classified	TOTAL
level	that-C	0	0	0	0	0	0
1	that-D	0	0	0	0	0	0
level	that-C	0	0	0	0	0	0
2	that-D	0	0	0	0	0	0
level	that-C	0	0	0	0	0	0
3	that-D	0	2	0	0	0	2
level	that-C	1	1	1	1	0	4
4	that-D	1	9	1	21	1	33
level	that-C	1	7	1	10	1	20
5	that-D	3	19	0	9	0	31
level	that-C	0	4	0	3	0	7
6	that-D	0	3	1	9	0	13
level	that-C	0	1	0	2	0	3
7	that-D	0	1	2	1	0	4
level	that-C	0	2	0	2	0	4
8	that-D	1	0	0	0	0	1
level	that-C	0	1	0	1	0	2
9	that-D	1	0	0	0	0	1
notivo	that-C	0	1	0	0	0	1
native	that-D	0	1	0	0	0	1

As regards Group 2, as shown in Table 6 (above), we have to teach temporal relationships between the main verb and the subclausal verb because the temporal relationship is used strangely by Japanese-speaking learners of English, as in (39).

(39) a. *She finds that there was a final sale in the department store.b. *She found that there is no foods in refrigerator.(level 4)

We should also teach the semantic areas where the 'find+that-COMP' construction can occur. Correctly speaking, the 'find+that-COMP' construction can occur in the area of DO SOMETHING WITHOUT MEANING TO, LEARN SOMETHING BY STUDY, and EXPERIENCE, as shown in Table 1. However, we do not have to teach the usages in all the areas. Especially, we should teach the 'find+that-COMP' in the area of LEARN SOMETHING BY STUDY where the 'find+that-deleted-COMP' construction never occurs, that is to say, where only the "find+that-COMP" construction can occur, as in (40).

(40) Well, if you read "Heal Your Headache", you'll find that there is a list of all of the potential dietary triggers. (LKL, Aug. 1, 2004)

To sum up, the contents that we should teach the Group 2 leaners are two-fold. One is that the contents that the Group 1 learners have to acquire, that is to say, the 'find+NP' construction and the expression 'find something difficult, easy or interesting.' The other is what the Group 2 learners have to acquire: the 'find+that-COMP' construction in the area of LEARN SOMETHING BY STUDY and the temporal relationship between the main verb and the subclausal verb in the 'find+that-COMP' construction.

Finally, a remarkable feature of learners at an advanced level, that is to say, Group 3, is that they can use the 'find+NP+ADJ' construction that the learners in both Group 1 and Group 2 can barely utter, as in (41).

- (41) a. But I sometimes find it very bitter. (level 7)
 - b. And I found that acting fun. (level 8)
 - c. But after train passed by, they found his suitcase undamaged. (level 9)

The learners of Group 3 tend to comprehend that the verb *find* can take various types of complements and that it has different meanings. However, it is undeniable that the learners even at the advanced level may have difficulty grasping the complementation patterns of *find*, considering that *find* is a familiar verb. In Group 3, we should teach the learners what they need to learn and have not yet mastered. The reason is not due to inadequate skills, but to the situation where they have not been taught such expressions yet. We should teach the expression, *find yourself doing something* which means 'to realize that you are doing something, even though you did not mean to,' as in (42). Needless to say, *Longman Wordwise Dictionary* (2001) contains this expression.

(42) He found himself laughing out loud during the film.

As shown in Table 7, this type of expression never occurs in the NICT JLE Corpus, while it occurs in the NICT NATIVE Corpus, as in (43a), and the CNN Larry King Live corpus, as in (43b).

- (43) a. Like I find myself speaking more English, and then I say, "I should be speaking more Japanese." (NICT Native File 10.)
 - b. But I found myself getting really frustrated with some of the evidence.

(LKL, Dec. 18, 2004.)

It should be stressed here that Table 7 also shows that the subject is limited to *I*, *we*, and *you*.

Table 7. Actual frequencies of *find oneself doing something* in the NICT JLE Corpus, the NICT NATIVE SPEAKER Corpus, and the CNN Larry King Live Corpus.

	NICT JLE	NICT	CNN
	(level 1-9)	NATIVE SPEAKER	Larry King Live
I find myself doing something	0	1	3
You find yourself/yourselves doing something	0	0	2
We find ourselves doing something	0	0	1
I found myself doing something	0	0	6
You found yourself/yourselves doing something	0	0	2

Moreover, as in Table 8, the CNN Larry King Live Corpus demonstrates that the adjective in the 'what I find+ADJ+is' construction is often

'interesting.' This expression is important in communicative activities. We could teach 'what I find interesting is' as one fixed expression to the learners of Group 3.

Table 8. Examples and collocate expressions of NP in five types of the 'find+NP+ADJ' construction in the CNN Larry King Live Corpus (actual frequencies in parentheses).

	NP	ADJ	examples
		interesting (8)	I found it very interesting because I had made "Waterfront" with Kazan and had worked with Actors Studio people, studied there, (LKL, Oct. 10, 2004.)
	it (47)	difficult (7)	I was in awe of him, and I found it difficult to talk to him, (LKL, Jan. 2, 2004)
find+NP+ADJ (126)		hard (5)	I find it hard to imagine the prosecution hasn't leaked certain information in this case. (LKL, Nov. 9, 2004)
	that (18)	hard (3)	So I find that a little bit hard to, actually, very hard to really believe that that is credible. (LKL, Apr. 6, 2004)
	the defendant (12)	guilty (12)	We find the defendant guilty of burglary. (LKL, Aug. 11, 2004)
headless	()		What I found interesting today is something Ted mentioned. (LKL, Aug. 11, 2004)
relative clause (12)	whichever (1)	interesting (1)	People can choose whichever ones they want, whichever ones they find interesting. (LKL, Mar. 7, 2004)
headed relative clause	the ded thing(s) interesting The one thing t		The one thing that I find very interesting is that you hear a lot of talk of John Kerry and John Kerry's character. (LKL, Sep. 2, 2004)
(14)	him (1)	attractive (1)	How somebody could get so frustrated and finally find a woman who actually finds him attractive (LKL, Jan. 9, 2004)
to find+NP +ADJ (7)	it (2)	funny (1)	Something obviously slipped there but they both seemed to find it funny, no harm done. (LKL, Nov.15, 2004)
finding+NP +ADJ (1)	her (1)	alive (1)	The odds against finding her alive are very slim, but I never say it's over until it really is over. (LKL, Feb. 13, 2004)

We should also teach the Group 3 learners find the person guilty or innocent as one fixed expression. At the same time we could explain that the adjectives in the 'be found ADJ' construction tend to be the ones opposed in meaning, such as 'guilty' or 'innocent', 'dead' or 'alive', as shown in Table 9 (below).

Table 9. Frequencies of collocates of adjectives in the 'find+NP+ADJ' construction and the 'be found+ADJ' construction in the CNN Larry King Live corpus.

the 'find+NP+ADJ' construction (160)	the 'be found+ADJ' construction (51)
guilty (26)	guilty (29)
interesting (22)	innocent (6)
hard (11)	alive (4)
difficult, fascinating (7)	dead (4)

To summarize, Table 10 demonstrates the contents that each learner should learn at each level in communicative activities.

Table 10. The contents that each group should learn at each level in communicative activities.

	Group 1	Group 2	Group 3
	find+NP	find+NP	find+NP
	find something easy/	find something easy/difficult/	find something easy/difficult/
	difficult/interesting	interesting	interesting
		find+that-complement in the	find+that-complement in the
contents		semantic area of LEARN	semantic area of LEARN
Contents		SOMETHING BY STUDY	SOMETHING BY STUDY
		the temporal relationship between the	the temporal relationship between the
		main verb and the subclausal verb	main verb and the subclausal verb
			find oneself doing something
			What I find interesting is

In other words, we have to select the contents that we should teach to the learners at various stages. The contents should be crucial to the communicative activities used. It should be borne in mind here that comprehension precedes production, that is to say, the learners cannot be expected to correctly use any expressions that they have never learned.

In second language pedagogy the first language plays an important role, and the more related the first language and second language are, the easier the learner finds it to learn the second language. In cognitive linguistics, in a developing second language system, the target units are in direct competition with the native ones because they both represent alternative ways of construing the same reality (Achard & Niemeier 2004). Second language learning can thus be viewed as a gradual process by which the target system gains increasingly more differentiation and autonomy from the native one. As we teach Japanese learners English, we Japanese teachers should consider the peculiarity that Japanese is not closely related to English. We have to develop a well-established teaching

system, for instance, reflecting the reality that Japanese learners do not have a good command of the very familiar verb *find*. As this paper has shown above, in deciding what content we should teach, we teachers not only need to focus on patterns revealed in the data shown in native-speaker corpora as showing target frequencies, but also need to focus on the data shown in learner corpora as showing learning gaps.

6. Concluding remarks

Linguists often regret that the methods used in language classrooms do not conform to those that they understand in the framework of linguistics, whereas language teachers, who need to explain to the learners why a foreign language should be as it is, complain that the linguists' expertise is simply of little help concerning practical methods and classroom activities. This paper argues that concepts of cognitive linguistics such as entrenchment and the usage-based thesis offer a way out of such frustrations that both linguists and language teachers feel. This paper fully endorses the view that focusing on form is focusing on meaning. This paper, taking a cognitive linguistics approach, strongly emphasizes that meaning is the result of integration of linguistic prompts at the conceptual level. To put it another way, meaning is embodied, as it can ultimately be traced back to how we actually experience our world and the nature of our bodies, which in part constrains and delimits the nature of the world for us. Therefore, the role of meaning in determining the form of grammatical constructions provides an intuitively appealing way of teaching such constructions.

This paper claims that cognitive linguistics offers a way out of the dilemma between helpful, productive linguistics and helpless, unproductive linguistics in pedagogical grammar. It should be stressed here that grammatical knowledge does not constitute the absolute core of language learning, but merely represents one dimension of linguistic knowledge. Another benefit of using entrenchment and the usage-based thesis is as follows: real production data is analyzed, while prior many investigations into learner language have been based on more experimental data. Various aspects of pragmatics, including communication strategies, can also be studied much more easily with the production data. As a result, this paper has applied cognitive linguistics insights to grammatical instruction in foreign language pedagogy, searching for descriptively adequate, intuitively acceptable, and easily accessible formulations of the

verb *find*, and providing a descriptively adequate, intuitively acceptable, easily accessible account of how the verb *find* functions and how widely various uses of the word *find* are systematically related to one another.

As this paper hopes to have shown, learner corpora clearly make a significant contribution to language teaching. Most importantly, they can contribute towards the improvement of pedagogical material by revealing typical difficulties of certain groups of learners. This is of particular relevance to advanced learners, whose difficulties are often rather subtle and therefore not accessible by unsystematic observation. Other ways in which entrenchment and learner corpora can help improve pedagogical material are more indirect, for example, by identifying typical second language acquisition processes or by finding out what words or patterns are particularly useful, especially for certain groups of learners. Attributing both of the potential of learner corpora and the concept of entrenchment to the complementation patterns of the verb *find* will render more transparent the nature of its relationship to other types of verbs, such as see, think, believe, feel, and so on, and to other types of complementation patterns that such verbs could take. Although the constraints of space do not permit further discussion here, this paper raises problems behind current teaching methods and thereby opens up avenues for further investigation and further significant teaching techniques.

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