# A Collostructional Approach to Tense, Aspect and Modality Patterns with Canonical Constructions in Spoken English[1]

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## 1. Introduction

Some Japanese English as a foreign language (EFL) learners at the A1-A2 levels of the Common European Framework of Reference for Languages (CEFR) tend to write the following awkward English sentences:

(1) a. *Sydney's image is Opera house*.
b. *China is very a lot of people*.
c. *Today is watching video*.

(Notohara, 2009, p. 171)

The intransitive sentence patterns (i.e., SVC) and the transitive sentence pattern (i.e., SVO) in (1) seem to be English sentences, but syntactically and semantically they are deviant. At a certain proficiency level, second language (L2) learners are likely to write such inappropriate English sentences even though they can write "well-structured" ones. According to recent error analysis research in applied linguistics, these *semantic mapping errors* are assumed to occur due to mixed reasons (i.e., a complex and multifactorial phenomenon) (Ellis, 2015); for example, inter- or intra-lingual negative transfer in L2 learners' interlanguage development such as semantic errors in lexis (James, 1998), cross-linguistic semantic and conceptual transfer

(Jarvis & Pavlenko, 2008) and intralingual (formal) overuse and so on.

These semantic errors in L2 learners' interlanguage development are assumed to be idiosyncratically developed through *statistical or contingent language learning* in their input-poor L2 learning environment (e.g., Ellis, 2006a, 2006b, 2019; Ellis & Larsen-Freeman, 2009; Hamrick & Rebuschat, 2012; Misyak & Christiansen, 2012; Onis, 2012; Treffers-Daller & Ziyan, 2016). According to the usage-based approaches to second language acquisition (SLA) (e.g., Ellis, 2014, 2019; Ellis, Römer, & O'Donnell, 2016), L2 learners are thought to (un)consciously map L2 form-meaning patterns in their interlanguage through daily L2 exposure. Specifically, low and low-intermediate EFL learners tend to be strongly influenced by first language (L1) negative transfer due to limited foreign language (FL) exposure, lower FL proficiency and weak general categorization skills. Cynically speaking, this could probably make EFL learners map idiosyncratic FL form-meaning patterns into their interlanguage.

Quite recently, in the English Profile (EP) projects, some researchers have been exploring and clarifying *criterial features* (CFs), which specify a particular L2 proficiency level, through large learner corpora (Carlsen, 2012; Hawkins & Buttery, 2010; Hawkins & Filipović, 2012; Salamoura & Saville, 2009, 2010). Probably, the semantic mapping errors mentioned above could be *negative CF candidates* at the CEFR A2 and beyond referring to the CEFR A2 verb co-occurrence frames as *positive CF candidates* (Hawkins & Filipović, 2012).

Here, canonical constructions (CCs), typical form-meaning patterns in native English speakers' minds are focused on as *minimum essentials* for ESL grammar instruction. If L2 learners can map English CCs into their interlanguage through effective explicit instruction and communicative

interactions, they can use English naturally without too much focus on forms because English CCs are supposed to be taught as canonical target language form-meaning patterns.

Theoretically, CCs have been proposed by cognitive grammar researchers (e.g., Radden & Dirven, 2007); however, little has empirically been known about *canonicity*. More unfortunately, even less has been known about *tense, aspect, and modality* (TAM) *patterns* with CCs, either. Therefore, this paper tries to (1) empirically explore the relationships between CCs and TAM patterns through a native English corpus-based study; furthermore, and (2) propose canonical TAM patterns with CCs as minimum essentials for communicative ESL grammar instruction to help L2 learners learn and use form-meaning patterns naturally.

## 2. Literature Review

### 2.1 The Usage-based Approach and Embodied Construction Grammar

The usage-based approach is a cognitive linguistic approach concerning general language acquisition. For example, Langacker (1987) in his *dynamic usage-based model* (DUBM) assumes that linguistic knowledge in native speakers' minds is a dynamic and flexible schematic network of constructions (form-meaning units) through language use as follows:

> Our characterization of schematic networks has emphasized their "static" properties, but it is important to regard them as dynamic, continually evolving structures. A schematic network is shaped, maintained, and modified by the pressures of language use. (pp. 381-382)

More recently, DUBM has been discussed in terms of embodied cognition

and mental simulation. Specifically, Bergen and Chang (2005) explain *embodied construction grammar* as follows:

> Our model addresses the need for a dynamic inferential semantics by viewing the conceptual understanding of an utterance as the internal activation of embodied schemas – cognitive structures generalized over recurrent perceptual and motor experiences – along with the mental simulation of these representations in context to produce a rich set of inferences. (pp. 147-148)

Furthermore, Gibbs (2005) explains the features of constructions accumulated in our minds through mental simulation and introduces a case of ditransitive construction. According to him, a ditransitive schema is defined as one in which "one entity takes some action that causes another entity to receive something" (p. 198). He also explains the TOSS schema as an example (e.g., *Mary tossed me a drink*): "Prototypically, the TOSS schema represents knowledge about a low-energy hand action that causes an entity to move through the air" (p. 198). Based on Goldberg (1995), the constructional analysis of the TOSS schema can be summed up in Figure 1.

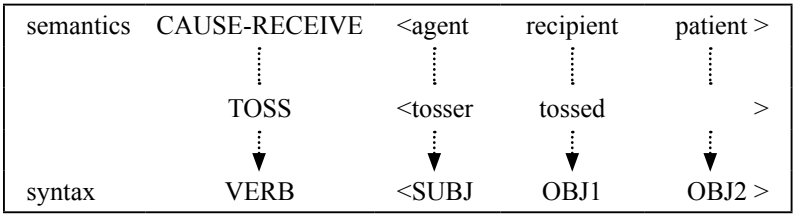


*Figure 1*. A constructional analysis of a ditransitive construction: the TOSS schema (based on Goldberg, 1995, p. 145)

Native English speakers have innumerable such embodied CCs (form-meaning units) and use them (un)consciously. Probably, on the other hand, L2 learners with the semantic mapping errors mentioned above could not map appropriate form-meaning units into their interlanguage, especially semantic aspects of CCs (e.g., CAUSE-RECEIVE <agent recipient patient> as shown in Figure 1). For example, Chan (2010) reported L2 learners' *pseudopassives and undergeneralization of passives* (e.g., *The floor can automatic clean*) in her corpus-based error analysis. According to her, even educated L2 learners failed to map appropriate form-meaning units of an English monotransitive construction (esp., agent-patient relationship) into their interlanguage with negative cross-linguistic transfer thus producing such an ungrammatical English sentence.

Recently, some SLA researchers have employed the usage-based approach to clarify dynamic L2 canonical (prototypical) construction development through corpus-based studies (Crossley & Salsbury, 2011; Ellis & Ferreira-Junior, 2009a, 2009b; Ellis & Larsen-Freeman, 2009; Ellis & O'Donnell, 2012; Ellis, O'Donnell, & Römer, 2014; Ellis, Römer, & O'Donnell, 2016). These studies show that native English speakers tend to use CCs and canonical verbs following a near Ziphian distribution (Ziph, 1935); however, L2 learners tend not to use them in the same way as native English speakers do. That is, they could have preferred idiosyncratic constructions and verbs instead of CCs and canonical verbs. What constructions and verbs are canonical? This question is considered next and discussed in detail.

### 2.2 CCs and Verbs

Pedagogically, it is crucial for L2 teachers to carefully select and teach CCs related to *canonical event schemata* from innumerable constructions

as minimum essentials for ESL grammar instruction. In cognitive grammar, Radden and Dirven (2007) define event schema as follows:

> Event schemata are defined by a small set of thematic roles. These conceptually prominent roles, which are typically associated with the conceptual core of a situation, are known as participant roles. (p. 270)

Radden and Dirven (2007) propose eleven canonical event schemata conceptually; however, these schemata were not empirically examined through a large corpus analysis. Notohara (2014) examined the canonicity of Radden and Dirven's (2007) eleven canonical schemata through the BNC spoken corpus on Sketch Engine and FrameNet in terms of frequencies and hierarchies of schema inheritances. As a result, it was found that another two schemata should be added as CCs: Mental schema (Experiencer-V-Theme/SVO)(e.g., *think*) and Communication schema (Agent-V-Theme-PREP-Recipient/SVO *to* O)(e.g., *say*). Based on the results, the extended canonical schemata can be summarized in Table 1.

Table 1

*Extended CCs and Verbs (based on Notohara, 2016)*

| Event Schema | Role Configuration | Sentence Patterns | Verbs |
|---|---|---|---|
| **Material World** | | | |
| 1. Occurrence schema: states<br>e.g., *This **is** true*. | T-(T) | SVC | *be* |
| 2. Occurrence schema: processes<br>e.g., *I'm **getting** better*. | T-(T) | SVC | *get* |
| 3. Spatial schema: location<br>e.g., *I'**m** here*. | T-L | SV | *be* |

| Event Schema | Role Configuration | Sentence Patterns | Verbs |
|---|---|---|---|
| 4. Spatial schema: (object) motion<br>e.g., *The prize **goes** to a child*. | T-G | SV | *go* |
| 5. Possession schema<br>e.g., *I **have** a book about her life*. | P-T | SVO | *have* |
| **Psychological World** | | | |
| 6. Emotion schema<br>e.g., *He **wanted** a drink*. | E-C | SVO | *want* |
| 7. Perception/Cognition schema<br>e.g., *I **saw** a black cat on the step*. | E-T | SVO | *see* |
| 8. Mental schema<br>e.g., *I **think** it is very true*. | E-T | SVO | *think* |
| **Force-dynamic World** | | | |
| 9. Action schema: energy chain<br>e.g., *I'll **make** some tea*. | A-T | SVO | *make* |
| 10. Self-motion schema<br>e.g., *This summer I **went** to Spain*. | A-G | SV | *go* |
| 11. Caused-motion schema<br>e.g., *He **put** the platter on the floor*. | A-T-G | SVO | *put* |
| 12. Transfer schema<br>e.g., *She **gave** it to him*. | A-T-R | SVO | *give* |
| 13. Communication schem<br>e.g., *He **said** it to me*. | A-T-R | SVO | *say* |

*Note*. T=theme, L=location, G=goal, P=possessor, E=experiencer, C=cause, A=agent, R=recipient, Examples are selected from BNC*web* (1996-present) by the author.

Furthermore, with the spoken component of the International Corpus of English Great Britain Release 2 (ICE-GB R2) (2006), Notohara (2016) explored association strengths between CCs and canonical verbs through collostructional analysis[2]. As a result, three facts were confirmed: (a) *get* is a prototypical verb of the Occurrence schema: processes; (b) *want* is a prototypical verb of the Emotion schema; and (c) *make* is a prototypical verb of the Action schema: energy chain.

Thus, native English speakers tend to use thirteen CCs with eleven verbs in order to describe their surroundings and express their own feelings in given situations. Additionally, they also tend to use the constructions with canonical TAM patterns although L2 learners tend to use them with TAM errors (e.g., Wulff et al., 2009). Next, such canonical relationships between CCs and TAM patterns in native speakers' minds are explored and discussed in detail.

### 2.3 CCs and TAM patterns

Langacker (2008) proposes a cognitive grammatical concept *grounding* by which speech events, the relationships between the participants in them, and the immediate circumstances (e.g., time and place) can be described. Specifically, he explains, "Grammatically, tense and modality are obligatory in a finite clause, while perfect, progressive, and passive are optional" (pp. 299-300). According to him, *grounding elements* [3] such as *–s*, *-ed*, and *will* exemplify the profiled relationships between participants in certain speech events in terms of the speakers' views of realities; for example, *current reality, immediate reality, conceived reality, projected reality* and *potential reality*. Furthermore, Langacker (2008) explains why tense and modality should be considered under the same grammar concept of *grounding* as

follows:

> Few linguists would disagree that tense and modality are intimately associated. The source of their association, quite clearly, is that we experience the world sequentially, one moment at a time, so that only the present moment is directly accessible. The past cannot yet be experienced directly but only through recall, and the future cannot yet be experienced even indirectly because it has not yet happened – we can only project, speculate, or imagine. (p. 300)

According to him, as time and epistemic judgement are closely related, the relationships between them are assumed to appear in English tense and modality.

Furthermore, Radden and Dirven (2007, p. 173) analyse situation types of speech events and propose *grounded* relationships between four statuses of reality and TAM patterns:

(2) a. known reality-past tense
e.g., Bill and Jane *got married* last year.
b. immediate reality-present tense
e.g., Bill and Jane *are getting married* today.
c. projected reality-future tense
e.g., Bill and Jane *will get married* next week.
d. potential reality-modal verbs
e.g., Bill and Jane *may be getting married* soon.

In their categorization, however, the relationships between statuses of reality and tense/modality are primarily focused on; therefore, subtle aspect features (i.e., progressiveness or perfectiveness) should be observed through concrete examples secondarily.

So far, based on the aspect hypothesis (Andersen & Shirai, 1994), SLA

researchers have been exploring L2 tense and aspect (TA) form-meaning mappings in terms of *inherent lexical aspect* (e.g., Bardovi-Harlig, 2000). Recently, some usage-based SLA researchers have begun to clarify L2 TA form-meaning mappings in terms of (*embodied*) *construction grammar development* (e.g., Ellis, 2014; Niemeier, 2013). Through comparative corpus-based studies, Wulff et al. (2009) report some differences between native English speakers (NEs) and non-native English speakers (NNEs) in TA patterns. For example, NEs tend to use *be* flexibly, such as in present, past, perfect, and progressive forms. On the other hand, NNEs tend to use *be* in present form only. This study explored the relationships between CCs and TA patterns, but unfortunately, it did not discuss the semantic aspects of the relationships between CCs and TAM patterns including modality. So far, there has been little descriptive research on the actual TAM patterns with CCs in terms of *grounding*. Yet, such research is needed to clarify the canonical and grounded relationships between CCs and TAM patterns and elaborate CCs specifying coordinated canonical TAM systems as minimum essentials for communicative ESL grammar instruction.

## 3. The Current Study

### 3.1 Research Questions

In order to confirm canonical and grounded relationships between CCs and TAM patterns, the following two research questions (RQs) are addressed here:

RQ1: What kinds of canonical TAM patterns are often seen when CCs are used in spoken English?

RQ2: What kinds of grounded relationships are often seen between

CCs and canonical TAM patterns?

### 3.2 Corpus

For the current study, the spoken component of the ICE-GB R2 corpus (2006) was selected. The corpus is part of the second version of the British component of the ICE corpus (approximately 0.6 million words). It is composed of a variety of spoken genres such as face-to-face conversations, classroom lessons, legal presentations, and broadcast talks. Additionally, it includes not only educated British English speakers (secondary school levels and above)' spoken data, but also the largest grammatically-tagged balanced data with (a) seven grammatical construction codes (i.e., intransitive, copular, monotransitive, dimonotransitive, ditransitive, complex-transitive, and tansitive); and (b) five TA verb inflectional morpheme codes (i.e., present, past, -*ed* participle, -*ing* participle and infinitive) (Nelson, Wallis, & Aarts, 2002). Referring to the corpus analysis software, ICE-CUP 3.1.1, the overview of the corpus used here is as follows:

Table 2

*The ICE-GB R2 Corpus (2006)*

| | |
|---|---|
| - Total | Tokens 1,061,263 |
| - Written Component (200 Texts, 554 Speakers) | Tokens 423,581 |
| - Spoken Component (300 Texts, 1,193 Speakers) | Tokens 637,682 |
| - Grammatically annotated corpus | |
| e.g., Food *is* available …V (cop, pres) | |
| I *used* the wrong tactics.V (montr, past) | |

*Note*. cop = copula construction, montr = monotransitive construction, pres = present tense, past = past tense.

### 3.3 Data Analysis

First, frequency distributions of thirteen CCs with five TAM patterns were described and normalized per 100,000 usages. Second, correspondence analysis was applied to the data through IBM SPSS 25 (2018) to confirm the relative relationships between thirteen CCs and five TAM patterns. Finally, in order to clarify the association strengths between the CCs and the TAM patterns, *collostructional analysis* (e.g., Gries, 2011; Gries & Stefanowitsch, 2004; Stefanowitsch & Gries, 2003) was used. Statistically, the Fisher's exact test has often been used in related analysis because frequencies of target grammar items tend to be remarkably low. More recently, other association measures such as collostructional strength, ΔP, and odds ratio have been recommended because the Fisher's exact test is still influenced by sample size (e.g., Gries, Hampe, & Schönefeld, 2005, 2010; Hampe, 2013; Schmidt & Küchenhoff, 2013; Stefanowitsch, 2013). Here, according to Schmidt and Küchenhoff (2013), odds ratio is used as a reliable association strength index. The data analysis procedure of the current study is summarized as follows:

1. search results of the three constructions, V(cop), V(intr), and V(montr) were downloaded from the spoken component of the ICE-GB R2 corpus (2006) and saved as concordance data in Excel files (csv version).
2. main verbs were only focused on in each concordance and their grammatical feature codes were confirmed as follows: keep <V(montr, infin) >, keeps <V(montr, pres)>, and kept <V(trans, past)>.
3. frequencies of target constructions were identified and counted according to Table 1 and additional coding scheme (Figure 2).

(a) Modal verbs

e.g., *I'll be there*. (Location/SV, *be*)

(b) to-infinitive

e.g., *I'd like to work for an airline*. (Emotion/SVO, *like*)

(c) Relative pronouns

e.g., *No one knows what the future will bring*.

(Perception & Cognition/SVO, *know*)

(d) Subject-motion/Object-motion[4]

e.g., *I never go home*. (Subject-motion/SV, *go*)

*It goes very well*. (Object-motion/SV, *go*)

*Figure 2*. Additional coding scheme

4. raw frequencies of TAM verb inflectional morphemes (e.g., *-s/-es* and *-ing*) of the thirteen canonical verbs (e.g., *be*, *go*, and *see*) in the spoken component of the ICE-GB R2 corpus (2006) were respectively described referring to grammatical feature codes (e.g., pres and ingp). Specifically, infinitive-mood grammatical features were counted in case of only a modal pattern (i.e., modal verbs + bare-infinitive).
5. thirteen canonical verbs were grouped through correspondence analysis to confirm their distributional similarities.
6. the association strengths between the thirteen canonical verbs and the five TAM patterns were confirmed through collostructional analysis (Gries, 2011).
7. 2×2 cross-tabulation tables were made and the results of the Chi square test, the Fisher's exact test and odds ratios (Schmidt & Küchenhoff, 2013) were confirmed with R studio Version 0.98.1028.

# 4. Results

## 4.1 Frequency Distributions

Normalized frequencies between CCs and TAM patterns per 100,000 concordance lines are shown in Figure 3 (see Appendix in detail). Apparently, States/SVC (BE) and Possession/SVO (HAVE) were frequent constructions; additionally, they had a relatively large repertoire of TAM patterns compared to other constructions. However, as the frequency distributions themselves did not show any relationships between the thirteen CCs and the five TAM patterns, the relative relationships were explored and clarified through correspondence analysis next.

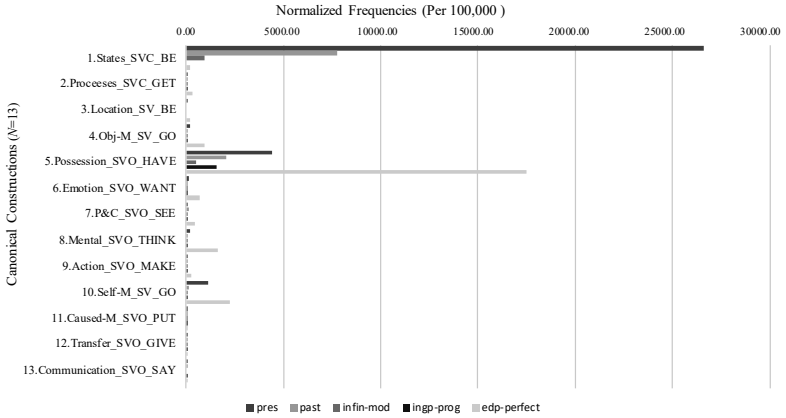


*Figure 3*. Normalized frequencies of thirteen CCs with five TAM patterns in the spoken component of the ICE-GB R2 corpus (2006) (per 100,000) ($N = 13$). pres = present tense, past = past tense, infin-mod = infinitive-mood (modal verbs+ bare-infinitive only), ingp-prog = *-ing* form (progressive aspect), edp = *-ed* form (perfect aspect).

**4.2 Correspondence Analysis**

After confirming the frequency distributions of the thirteen CCs, the Chi-squared test was used to confirm relationships between the thirteen CCs and the five TAM patterns. Then, the distributional similarities of the thirteen CCs were confirmed through correspondence analysis. As a result, there were statistically significant relationships between the thirteen CCs and the five TAM patterns (13×5) ($\chi$2 (48) = 42764.72, $p$ = .000, Cramer's V = .384, $p$ = .000, 95% CI [ .00, .00], Dimension 1 = 96.90%; Dimension 2 = 2.50%, Total inertia = 99.40%). Then, three relationships can be statistically pointed out: (1) States/SVC (BE) construction was closely related to present tense, past tense, infinitive-mood (i.e., modal verbs + bare-infinitive pattern only); (2) Perception & Cognition/SVO (SEE) construction, Communication/SVO (SAY) construction, Action/SVO (MAKE) construction, Caused-motion/SVO (PUT) construction were closely related to *-ing* form (progressive aspect); (3) the other eight constructions were closely related to *-ed* form (perfect aspect).

Although Figure 4 showed relative relationships between the CCs and TAM patterns mentioned above, the independent inertia contribution of Dimension 2 was remarkably low (2.50%). Therefore, the relationships between the CCs and the TAM patterns should be reinterpreted respectively through collostructional analysis, which can accurately confirm the association strengths between lexemes and constructions.

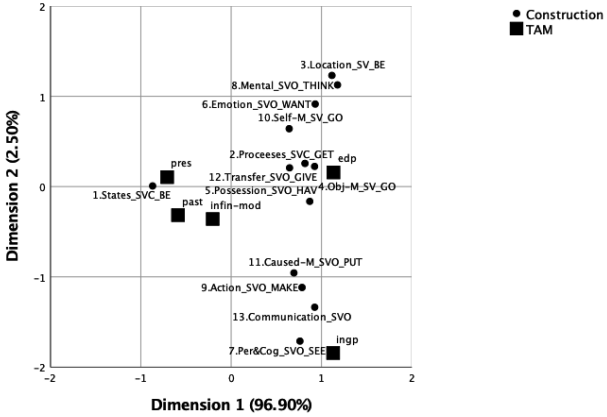


*Figure 4*. Correspondence analysis between thirteen CCs and five TAM patterns.

### 4.3 Collostructional Analysis

As Figure 3 shows, it was found that States/SVC (BE) and Possession/SVO (HAVE) were excessively frequent constructions. Presumably, the result of the correspondence analysis was strongly influenced by such frequent constructions. Here, more strictly, association strengths between the thirteen CCs and the five TAM patterns (13×5) were respectively confirmed. The results are shown in Tables 3 to 15. Each Table shows the odds ratios of five TAM patterns in thirteen CCs. TAM patterns with higher odds ratio were ranked higher in each table. The top two frequent TAM patterns confirmed with statistical significance in each CC are shown in bold style. As a result, it was confirmed that most CCs were often used in both present and past forms although preferred forms varied in frequencies. In contrast, it was found that aspect form and modality form in TAM patterns were less often used with CCs except for Perception & Cognition/SVO (SEE) (see Table 9) and Communication/SVO (SAY) (see Table 15).

Table 3

*States/SVC (BE) in Copula Construction (N = 8,108)*

| TAM patterns (Freq) | $\chi$2 (1) | OR | 95% CI |
|---|---|---|---|
| **1. Tense: pres (6,080)** | **366.03**** | **1.82** | **[1.71, 1.94]** |
| **2. Tense: past (1,768)** | **104.06**** | **1.44** | **[1.34, 1.55]** |
| 3. Modality: Infin-mod (215) | 849.36** | 0.15 | [0.13, 0.17] |
| 4. Aspect: edp-perf (45) | 252.27** | 0.12 | [0.09, 0.17] |
| 5. Aspect: ingp-prog (0) | 163.33** | 0.00 | [0.00, 0.02] |

*$p < .05$, two tailed, **$p < .01$, two tailed, OR= Odds Ratio, CI = confidence interval

Table 4

*Processes/SVC (GET) in Copula Construction (N = 73)*

| TAM patterns (Freq) | $\chi$2 (1) | OR | 95% CI |
|---|---|---|---|
| **1. Tense: past (24)** | **35.72**** | **11.76** | **[4.36, 37.27]** |
| **2. Tense: pres (36)** | **21.95**** | **4.10** | **[2.14, 7.96]** |
| 3. Aspect: edp-perf (4) | 1.90 | 0.46 | [0.11, 1.49] |
| 4. Aspect: ingp-prog (8) | 12.40** | 0.25 | [0.10, 0.58] |
| 5. Modality: Infin-mod (1) | 27.96** | 0.03 | [0.00, 0.18] |

*$p < .05$, two tailed, **$p < .01$, two tailed, OR= Odds Ratio, CI = confidence interval

Table 5

*Location/SVC (BE) in Copula Construction (N = 43)*

| TAM patterns (Freq) | $\chi$2 (1) | OR | 95% CI |
|---|---|---|---|
| **1. Tense: pres (35)** | **5.55*** | **2.45** | **[1.11, 6.15]** |
| 2. Tense: past (8) | 0.14 | 0.86 | [0.34, 1.90] |
| 3. Modality: Infin-mod (0) | 4.50* | 0.00 | [0.00, 0.86] |
| 4. Aspect: edp-perf (0) | 2.33 | 0.00 | [0.00, 1.67] |
| 5. Aspect: ingp-prog (0) | 0.16 | 0.00 | [0.00, 28.82] |

*$p < .05$, two tailed, **$p < .01$, two tailed, OR= Odds Ratio, CI = confidence interval

Table 6

*Object-Motion/SV (GO) in Intranstive Construction (N =200)*

| TAM patterns (Freq) | $\chi$2 (1) | OR | 95% CI |
|---|---|---|---|
| **1. Tense: pres (119)** | **251.04**** | **9.02** | **[6.54, 12.48]** |
| 2. Tense: past (42) | 3.57 | 1.41 | [0.96, 2.05] |
| 3. Aspect: edp-perf (10) | 0.27 | 0.84 | [0.39, 1.64] |
| 4. Modality: Infin-mod (15) | 72.68** | 0.13 | [0.07, 0.23] |
| 5. Aspect: ingp-prog (14) | 37.41** | 0.21 | [0.11, 0.36] |

*$p$ < .05, two tailed, **$p$ < .01, two tailed, OR= Odds Ratio, CI = confidence interval

Table 7

*Possession/SVO (HAVE) in Monotransitive Construction (N = 1,111)*

| TAM patterns (Freq) | $\chi$2 (1) | OR | 95% CI |
|---|---|---|---|
| **1. Tense: pres (568)** | **215.93**** | **3.32** | **[2.81, 3.92]** |
| **2. Tense: past (282)** | **48.02**** | **1.95** | **[1.61, 2.38]** |
| 3. Aspect: edp-perf (100) | 1.24 | 0.86 | [0.66, 1.13] |
| 4. Aspect: ingp-prog (32) | 31.03** | 0.34 | [0.22, 0.51] |
| 5. Modality: Infin-mod (129) | 308.72** | 0.17 | [0.14, 0.22] |

*$p$ < .05, two tailed, **$p$ < .01, two tailed, OR= Odds Ratio, CI = confidence interval

Table 8

*Emotion/SVO (WANT) in Monotransitive Construction (N = 430)*

| TAM patterns (Freq) | $\chi$2 (1) | OR | 95% CI |
|---|---|---|---|
| **1. Tense: pres (293)** | **188.22**** | **6.43** | **[4.84, 8.58]** |
| **2. Tense: past (99)** | **10.75**** | **1.70** | **[1.22, 2.37]** |
| 3. Aspect: edp-perf (2) | 3.44 | 0.25 | [0.02, 1.38] |
| 4. Aspect: ingp-prog (3) | 16.32** | 0.13 | [0.02, 0.41] |
| 5. Modality: Infin-mod (33) | 219.69** | 0.08 | [0.05, 0.11] |

*$p$ < .05, two tailed, **$p$ < .01, two tailed, OR= Odds Ratio, CI = confidence interval

Table 9

*Perception & Cognition/SVO (SEE) in Monotransitive Construction (N = 270)*

| TAM patterns (Freq) | $\chi 2$ (1) | OR | 95% CI |
|---|---|---|---|
| **1. Tense: past (64)** | **82.38**** | **6.62** | **[1.34, 1.55]** |
| **2. Aspect: edp-perf (66)** | **23.15**** | **2.36** | **[1.62, 3.43]** |
| 3. Tense: pres (49) | 7.96** | 1.73 | [1.15, 2.59] |
| 4. Aspect: ingp-prog (4) | 4.99* | 0.32 | [0.08, 0.92] |
| 5. Modality: Infin-mod (87) | 101.23* | 0.23 | [0.08, 0.92] |

*$p < .05$, two tailed, **$p < .01$, two tailed, OR= Odds Ratio, CI = confidence interval

Table 10

*Mental/SVO (Think) in Monotransitive Construction (N = 1,015)*

| TAM patterns (Freq) | $\chi 2$ (1) | OR | 95% CI |
|---|---|---|---|
| **1. Tense: pres (855)** | **231.10**** | **4.34** | **[3.56, 5.33]** |
| **2. Tense: past (133)** | **36.68**** | **2.33** | **[1.74, 3.11]** |
| 3. Aspect: edp-perf (3) | 23.04** | 0.10 | [0.02, 0.31] |
| 4. Modality: Infin-mod (19) | 381.67** | 0.04 | [0.02, 0.06] |
| 5. Aspect: ingp-prog (5) | 5.44* | 0.33 | [0.10, 0.90] |

*$p < .05$, two tailed, **$p < .01$, two tailed, OR= Odds Ratio, CI = confidence interval

Table 11

*Self-Motion/SV (GO) in Intransitive Construction (N = 482)*

| TAM patterns (Freq) | $\chi 2$ (1) | OR | 95% CI |
|---|---|---|---|
| **1. Tense: past (243)** | **532.21**** | **15.24** | **[11.58, 20.17]** |
| **2. Tense: pres (191)** | **190.16**** | **4.81** | **[3.77, 6.12]** |
| 3. Aspect: edp-perf (17) | 9.91** | 0.44 | [0.24, 0.75] |
| 4. Modality: Infin-mod (29) | 228.29** | 0.08 | [0.05, 0.12] |
| 5. Aspect: ingp-prog (2) | 198.62** | 0.01 | [0.00, 0.03] |

*$p < .05$, two tailed, **$p < .01$, two tailed, OR= Odds Ratio, CI = confidence interval

Table 12

*Action/SVO (MAKE) in Monotransitive Construction (N = 148)*

| TAM patterns (Freq) | $\chi$2 (1) | OR | 95% CI |
|---|---|---|---|
| **1. Tense: past (38)** | **47.50**** | **5.15** | **[3.02, 8.80]** |
| **2. Tense: pres (43)** | **42.42**** | **4.24** | **[2.61, 6.90]** |
| 3. Aspect: edp-perf (26) | 8.54** | 0.51 | [0.31, 0.82] |
| 4. Aspect: ingp-prog (11) | 7.46** | 0.41 | [0.19, 0.80] |
| 5. Modality: Infin-mod (30) | 18.14** | 0.40 | [0.25, 0.62] |

*$p$ < .05, two tailed, **$p$ < .01, two tailed, OR= Odds Ratio, CI = confidence interval

Table 13

*Caused-Motion/SVO (PUT) in Monotransitive Construction (N =23)*

| TAM patterns (Freq) | $\chi$2 (1) | OR | 95% CI |
|---|---|---|---|
| 1. Tense: pres (5) | 1.65 | 1.97 | [0.53, 6.05] |
| 2. Aspect: ingp-prog (4) | 0.27 | 1.35 | [0.31, 4.41] |
| 3. Aspect: edp-perf (3) | 1.43 | 0.48 | [0.09, 1.68] |
| 4. Tense: past (5) | 1.05 | 0.31 | [0.47, 5.22] |
| 5. Modality: Infin-mod (6) | 1.15 | 0.28 | [0.19, 1.65] |

*$p$ < .05, two tailed, **$p$ < .01, two tailed, OR= Odds Ratio, CI = confidence interval

Table 14

*Transfer/SVO (GIVE) in Monotransitive Construction (N = 20)*

| TAM patterns (Freq) | $\chi$2 (1) | OR | 95% CI |
|---|---|---|---|
| **1. Tense: pres (7)** | **9.99**** | **4.36** | **[1.37, 12.79]** |
| **2. Tense: past (8)** | **7.28**** | **3.42** | **[1.51, 9.68]** |
| 3. Modality: Infin-mod (3) | 2.58 | 0.37 | [0.07, 1.34] |
| 4. Aspect: ingp-prog (1) | 1.08 | 0.36 | [0.01, 2.37] |
| 5. Aspect: edp-perf (1) | 5.03* | 0.14 | [0.00, 0.89] |

*$p$ < .05, two tailed, **$p$ < .01, two tailed, OR= Odds Ratio, CI = confidence interval

Table 15

*Communication/SVO(SAY) in Monotransitive Construction (N = 13)*

| TAM patterns (Freq) | $\chi$2 (1) | OR | 95% CI |
|---|---|---|---|
| **1. Aspect: edp-perf (3)** | **4.10**** | **3.53** | **[0.62, 13.93]** |
| 2. Tense: pres (5) | 1.89 | 2.16 | [0.55, 7.53] |
| 3. Tense: past (4) | 0.04 | 1.12 | [0.25, 4.04] |
| 4. Modality: Infin-mod (1) | 2.54 | 0.22 | [0.01, 1.50] |
| 5. Aspect: ingp-prog (0) | 2.09 | 0.00 | [0.00, 2.05] |

*$p < .05$, two tailed, **$p < .01$, two tailed, OR= Odds Ratio, CI = confidence interval

# 5. Discussion

## 5.1 Canonical TAM patterns

As odds ratios show in Tables 3, 7, 8, 10, and 14, it was found that two material world constructions (i.e., States/SVC and Possession/SVO) and two psychological world constructions (i.e., Emotion/SVO and Mental/SVO), and one force dynamic world construction (i.e., Transfer/SVO) were primarily used in the present tense, and then secondarily, in the past tense. Additionally, as shown in Tables 5 and 6, it was found that two material world constructions (i.e., Location/SV and Object-motion/SV) were primarily used in the present tense. These results show that both present and past forms were often used in several different constructions, but *stative* material world constructions, *immediate* psychological world constructions and *immediate interactive* force dynamic world constructions are more often used in the present tense than in the past tense.

On the other hand, as odds ratios show in Tables 4, 9, 11, and 12, it was found that one material world construction (i.e., Processes/SVC), and one

psychological world construction (i.e., Perception & Cognition/SVO), and two force dynamic world constructions (i.e., Self-motion/SV and Action/SVO) were primarily used in the past tense, and then secondarily, in the present tense. These results show that a *continuously changing* material world construction, an *experience-based* psychological world construction and *experience-based* force dynamic world constructions are more often used in the past tense than in the present tense.

Interestingly, as shown in Table 15, it was found that one force dynamic world construction (i.e., Communication/SVO) tended to be used in the perfect aspect. Finally, as shown in Table 13, one force dynamic world construction (i.e., Caused-motion/SVO) did not have any distinctive patterns among the five TAM patterns statistically. As these two constructions were less frequent and less related to Radden and Dirven's (2007) framework, they were not included as canonical TAM patterns here.

Based on the results of the relationships between the thirteen CCs and the five TAM patterns, the canonical TAM patterns with CCs in terms of grounding can be summed up as follows:

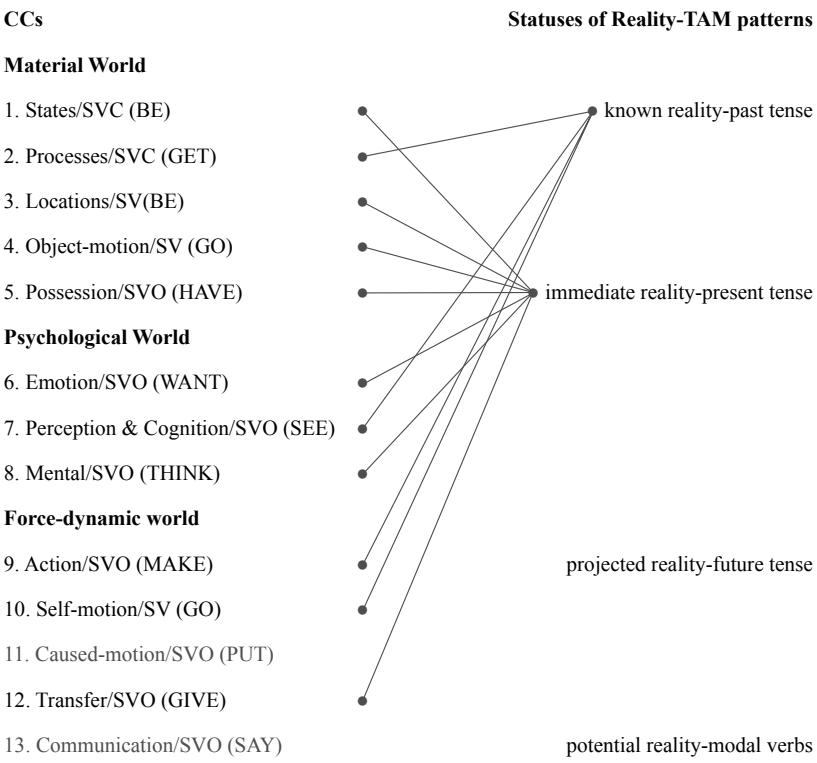


*Figure 5*. Canonical TAM patterns of CCs

## 5.2 Grounded Relationships

Considering the canonical TAM patterns mentioned above from a cognitive linguistic perspective grounding, it could be assumed that States/SVC (e.g., *This is a nice room*), Possession/SVO (e.g., *He now has the support*), Emotion/SVO (e.g., *I really want to explore* X), Mental/SVO (e.g., *I think that* S+V), Transfer/SVO (e.g., *when you give* X *to* Y), Location/SV (e.g., *Francisco is here*) and Object-motion/SV (e.g., X *goes to* Y) are related to immediate reality-present tense. Probably, native English

speakers tend to use these constructions in the present tense to describe their immediate surroundings and express present feelings or ideas although they use them in the past tense while looking back at their pasts according to given situations.

On the other hand, it could be assumed that Processes/SVC (e.g., *He got so excited*), Perception & Cognition (e.g., *I saw him*), Self-motion/SV (e.g., *I went to* X) and Action/SVO (e.g., *I never made any secret*) are relatively related to known reality-past tense. Perhaps, native English speakers tend to use these constructions in the past tense to recall past experiences and surroundings to report to someone although they use them in the present tense to describe their immediate surroundings and express present feelings or ideas according to given situations.

Finally, as shown in Figure 5, most material and psychological schema-based CCs are primarily used to describe immediate surroundings and express present feelings or ideas. Then, Processes-related and Experiencer (or Agent)-related CCs are primarily used to report past experiences and surroundings. Thus, it could be concluded that most native English speakers often use CCs with the canonical TAM patterns in Figure 5 in their lives.

By way of limitations, this study could not clearly clarify the relationships between CCs and TAM patterns in details (esp., aspect and modality) even though it used a fully grammar-tagged native English corpus. Therefore, in order to confirm more precise tendencies, a much larger corpus with the same or similar grammar tags is needed. Furthermore, another reliable association strength index such as ΔP should be used for the same study. Finally, two main types were confirmed through the corpus-based study here; however, further studies with different approaches are needed to confirm whether the canonical and grounded relationships between CCs and

TAM patterns in this study are reliable or not.

### 5.3 Pedagogical Implications

As Figure 5 shows, it can be suggested that CCs are closely related to certain TAM patterns and can be categorized into two types: the immediate reality-present tense type and the known reality-past tense type. L2 learners should recognize the two canonical types and map the related CCs into their interlanguage through six approaches to pedagogical grammar instruction (Keck & Kim, 2014): (1) explicit instruction + decontextualized rote practice, (2) explicit instruction + communication about grammar in collaborative tasks, (3) communicative task + explicit instruction before or after the task, (4) implicit focus on form through planned feedback in oral communication tasks, (5) implicit focus on form through unplanned, reactive feedback in the midst of meaningful communication, and (6) communication tasks.

For example, in explicit instruction of the Possession schema construction (e.g., approaches (1)(2)(3)), teachers can introduce to L2 low or low-intermediate learners both the form (i.e., SVO) and the meaning (i.e., possessor-theme relationship) of the construction through an example (e.g., *I have a book about her life*). Furthermore, they can also help intermediate-to-advanced learners notice the coordinated epistemic meaning and function (i.e., to convey information about the immediate reality) of the Possession schema construction through the *deictic time* represented in the verb tense (i.e., *have*) (e.g., Radden & Dirven, 2007).

In collaborative dialogue (e.g., approaches (2)(4)(5)), if L2 low or low-intermediate learners make syntactic and semantic errors with copula *be* verb overuse (e.g., *China is very a lot of people*), teachers can ask them

to reformulate what they want to express through (un)planned corrective feedback such as elicitation (e.g., *China …?*). Additionally, they can also help them gradually notice the form (i.e., SVO) and the meaning (i.e., possessor-theme relationship) of Possession schema construction (e.g., *China has …, China has a lot of…, China has a lot of people or China has a large population*). Furthermore, they can metalinguistically help intermediate-to-advanced learners recognize their negative cross-linguistic transfer, conceptual conflicts between existence and possession schemata, and copula *be* verb overuse.

Finally, teachers can help L2 intermediate-to-advanced learners engage in form-focused communicative or communication tasks (e.g., approaches (3)(4)(5)(6)) in order to convey information about two epistemic realities: (a) describing immediate surroundings and expressing present feelings or ideas with immediate reality-present tense type constructions; and (b) reporting past experiences and surroundings with known reality-past tense type constructions. For example, in self-description tasks, teachers can help L2 learners describe themselves and express their feelings while encouraging them to use the related CCs such as States/SVC, Location/SV, Object-motion/SV, Possession/SVO, Emotion/SVO, Mental/SVO, and Transfer/SVO (e.g., Niemeier, 2017).

Additionally, the grounded relationships between CCs and TAM patterns confirmed in this study are canonical in frequencies. If there are some secondary or tertiary grounded relationships, teachers should help L2 learners map the additional form-meaning patterns into their interlanguage according to their L2 proficiency levels. As this study could suggest the secondary or tertiary candidates (i.e., less frequent, but statistically significant) shown in Tables 3 to 15, it can be suggested that they can

be noticed and taught to L2 learners in communicative ESL grammar instruction. For example, States/SVC (BE) can be taught in different realities such as known reality, projected reality and potential reality although it should be primarily taught in related to the immediate reality.

## 6. Conclusion

This study explored canonical TAM patterns of CCs through a corpus-based study. Results suggest that eleven CCs can be categorized into two types: the immediate reality-present tense type and the known reality-past tense type. With such canonical and grounded relationships between CCs and TAM patterns established in this study, teachers can help L2 learners escape from semantic mapping errors and develop form-meaning patterns (including epistemic patterns) through explicit instruction and communicative interactions effectively.

The remaining issues in this study are as follows: (1) further careful construction identifications and their actual frequency confirmations in the spoken component of the ICE-GB R2 corpus (2006) should be utilized and discussed from three perspectives: the cognitive linguistic framework (e.g., CCs, canonical verbs and canonical TAM patterns), corpus-based analysis, and association strength indexes; (2) further cautious discussions about the relationships between CCs and TAM patterns in the spoken component of the ICE-GB R2 corpus (2006) should be continued in terms of corpus profiles including register.

## Notes

1. This paper was presented at Aston University (UK) as part of the 48th British Association for Applied Linguistics (BAAL) conference, when it was titled "Tense and Aspect Usage Patterns of Canonical Verbs in the Spoken English Corpus." It has subsequently been substantially rewritten in terms of tense, aspect, and modality.
2. Stefanowitsch and Gries (2003) explain collostructional analysis as follows: Collostructional analysis always starts with a particular construction and investigates which lexemes are strongly attracted or repelled by a particular slot in the construction (i.e. occur more frequently or less frequently than expected) (p. 214).
3. According to Langacker (2008), *grounding elements* are tense and modals. Aspect (e.g., perfect and progressive) and voice (e.g., passive), which are regarded as grounded structures, are excluded here (pp. 299-300).
4. Radden and Dirven (2007) define *subject* as "the noun phrase of a sentence that denotes the primary participant, or figure, in a situation, from whose perspective the situation is viewed." On the other hand, they define *object* as "the noun phrase of a sentence within a verb phrase that denotes the secondary participant, or ground, in a situation (p. 47). Although they accept that motion is a complex event, they assume that object-motion is non-agentive, but self-motion and caused-motion are typically agentive (p. 278).

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## Appendix

*Normalized Frequencies of Thirteen Canonical Constructions with Five TAM Usage Patterns in the ICE-GB R2 Corpus (2006) (per 100,000)*

| | 1.Sta | 2.Pro | 3.Loc | 4.OM | 5.Pos | 6.Emo | 7.P&C | 8.Men | 9.Act | 10.SM | 11.CM | 12.Tra | 13.Com | *M* | *SD* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pres | 27030.63 | 106.70 | 37.43 | 196.52 | 4518.36 | 158.62 | 102.54 | 213.10 | 60.89 | 1137.00 | 8.01 | 12.82 | 6.41 | 2583.77 | 7448.23 |
| Past | 7860.22 | 4.45 | 0.00 | 70.19 | 2066.91 | 52.87 | 139.40 | 30.44 | 48.07 | 135.69 | 9.61 | 4.81 | 1.60 | 801.87 | 2193.65 |
| Mod | 955.85 | 35.57 | 0.00 | 65.51 | 512.72 | 4.81 | 6.41 | 8.01 | 17.62 | 9.36 | 6.41 | 1.60 | 0.00 | 124.91 | 285.75 |
| Prog | 0.00 | 17.78 | 0.00 | 46.79 | 1602.26 | 3.20 | 105.75 | 4.81 | 41.66 | 79.54 | 4.81 | 1.60 | 4.81 | 147.15 | 438.52 |
| Perf | 200.06 | 324.55 | 201.20 | 935.80 | 17801.06 | 688.97 | 432.61 | 1626.29 | 237.13 | 2255.29 | 36.85 | 32.05 | 20.83 | 1907.13 | 4822.76 |
| *M* | 7209.35 | 97.81 | 47.73 | 262.96 | 5300.26 | 181.70 | 157.34 | 376.53 | 81.07 | 723.38 | 13.14 | 10.57 | 6.73 | 1112.97 | 3037.78 |
| *SD* | 11549.00 | 132.74 | 87.31 | 380.79 | 7140.23 | 290.52 | 161.66 | 703.98 | 88.64 | 973.08 | 13.38 | 12.85 | 8.28 | 1095.42 | 3069.23 |

*Note.* Sta = States/SVC, Pro = Processes/SVC, Loc = Location/SV, OM = Object-motion/SV, Pos = Possession/SVO, Emo = Emotion/SVO, P&C = Perception & Cognition/SVO, Men = Mental/SVO, Act = Action/SVO, SM = Self-motion/SV, CM =Caused-motion/SVO, Tra = Transfer/SVO, Com = Communication/ SVO, pres = present tense, past = past tense, Mod = infinitive-mood (modal verbs+ bare-infinitive only), Prog = ingp-prog (*-ing* form (progressive aspect)), Perf = edp (*-ed* form (perfect aspect)).

## Synopsis

# A Collostructional Approach to Tense, Aspect and Modality Patterns with Canonical Constructions in Spoken English

Yoshiyuki Notohara

This study empirically describes canonical *tense, aspect and modality* (TAM) patterns with thirteen *canonical constructions* (CCs) through the spoken component of the International Corpus of English Great Britain Release 2 (ICE-GB R2) (2006). After considering canonical and grounded relationships between thirteen CCs and five TAM patterns, this study also discusses and presents pedagogical implications for effective English CCs instruction through which second language (L2) learners (esp., with semantic mapping errors) could map CCs into their interlanguage appropriately and use English naturally without too much focus on forms.

First, this paper briefly reviews three aspects of the cognitive linguistic background and their related applied linguistic studies: (a) the usage-based approach and embodied construction grammar (e.g., Ellis, Römer, & O'Donnell, 2016; Langacker, 1987); (b) CCs and verbs (e.g., Notohara, 2016; Radden & Dirven, 2007); and (c) CCs and TAM patterns (e.g., Langacker, 2008; Niemeier, 2013; Radden & Dirven, 2007; Wulff et al., 2009).

Second, the current study empirically examined the relationships between CCs and TAM patterns through correspondence analysis. The results showed that thirteen CCs could be divided into three groups: (1) States/SVC (BE)

construction was closely related to present tense, past tense, and modality; (2) Perception & Cognition/SVO (SEE) construction, Communication /SVO (SAY) construction, Action/SVO (MAKE) construction, Caused-motion/ SVO (PUT) construction were closely related to progressive aspect; (3) the other eight constructions were closely related to perfect aspect. However, as the independent inertia contribution of Dimension 2 was remarkably low (2.50%), the relationships between CCs and TAM patterns should be reinterpreted respectively through *collostructional analysis* (e.g., Schmidt & Küchenhoff, 2013). The analysis showed that eleven CCs could be categorized into two types: *the immediate reality-present tense type* and *the known reality-past tense type*.

Finally, based on the results in the current study, this paper suggests three approaches to effective CCs instruction referring to Keck and Kim's (2014) form-focused instruction continuum: explicit instruction, collaborative dialogue, and form-focused communicative or communication tasks.