

Original Paper

Episodic Word-Congruency to Understand Polymeaning Word in Sentence: Word Character Division, Frequent Binding and Inter-Sentential Congruency

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Abstract

It was proposed by Cai the words/grammar/episodic (semantic/syntactic/episodic) linguistic model, able to understand the congruent meaning of polymeaning word in sentence/paragraph via episodic word-congruency supported by N400/P600 brain reaction. Herein, it is highlighted three types of episodic word-congruency: (i) stepwise congruent comprehension of words in sentence by congruency of word characters, including the zoological/organizational/range/relation/logic/physical/categorical characters for pronouns/nouns, affective/behavioral/range/relation/logic/characteristic/changing characters for verbs, and affective/behavioral/range/relation/logic/characteristic/changing/spatial/temporal characters for adjectives/adverbs; (ii) frequent word binding as phrases, idioms, etc; (iii) inter-sentential episodic congruency with two subtypes, as the meaning of polymeaning-word congruent with the thematic field of paragraph, and the pronoun inter-sentential transferring the range/relation/logic word characters of corresponding noun. Altogether, it requires episodic word-congruency to understand the sentence containing polymeaning words.

Keywords

polymeaning word, linguistic N400/P600, word character, frequent word binding, inter-sentential episodic congruency

1. Introduction

The present word/grammar division of language neglects associating the word meanings into sentential meaning (Cai, 2017a, 2023). Accordingly, Cai proposed a words/grammar/episodic (or semantic/syntactic/episodic) model of language, supplementing the episodic association of word meanings in sentence as necessary for comprehension and generation of sentential meaning (Cai, 2017a, 2023).

For demonstration, the change in brain N400 is usually related to the lexical and semantic mistakes while that of P600 related to the semantic and syntactic mistakes (Brouwer, Fitz, & Hoeks, 2012; Kuperberg, 2007; Seyednozadi, Pishghadam, & Pishghadam, 2021). In other words, when the lexical, semantic and syntactic mistakes violate the episodic congruency of word in sentence, they cause N400/P600 reactions of brain to recognize them (Brouwer, Fitz, & Hoeks, 2012; Kuperberg, 2007; Seyednozadi, Pishghadam, & Pishghadam, 2021). Accordingly, the brain N400/P600 reactions against lexical, semantic and syntactic violations indicate the word need match in meaning with others in sentence, as the episodic word-congruency for sentence (Cai, 2017b).

For its application in polymeaning words, it is necessary to adopt the episodic word-congruency to understand their congruent meanings in sentence/paragraph (Cai, 2017b, 2023).

Thereby, it deserves further highlighting this important issue to understand the sentence containing polymeaning words.

2. Classification of Episodic Word-Congruency

The episodic word-congruency can be divided into three types (Cai, 2017b). (a) By stepwise increase in brain gamma bands (Fedorenko et al., 2016; Nelson et al., 2017), it reveals stepwise congruent comprehension of words in sentence. (b) In contrast, by decrease in brain gamma bands (Nelson et al., 2017; Rommers, Dijkstra, & Bastiaansen, 2013), the frequent word binding for phrases or idioms is another type of episodic word-congruency in sentence (Cai, 2017b). (c) In simple sentence with few words, inter-sentential episodic congruency of words in paragraph/text helps understand the congruent meaning of polymeaning-word (Cai, 2017b).

2.1 Word Character Division in Stepwise Congruent Comprehension

For stepwise congruent comprehension of words in sentence, the episodic word-congruency is necessary to determine the congruent meaning of polymeaning word. For English, the pronoun “he” and “she” can perceive, think or act as a human/animal, while “it” represents the natural matter mostly and can sometimes represent an animal. These pronouns fall into the social sciences and natural sciences respectively. Likewise, many nouns can also be classified as the alive human/animal and natural changing matter (Cai, 2017b). Since the pronouns/nouns in category of alive human/animal possess the zoological or organizational (zoological/organizational) characters, they can be marked by these characters, while those in category of natural changing matter possess the physical or categorical

(physical/categorical) characters, thereby can be marked by such characters (Cai, 2017b).

The verbs following the pronouns/nouns of subject in sentence indicate the status, behavior or change of the subject. The verbs following the zoological/organizational nouns/pronouns of subject manifest as characteristic, affective, behavioral or logic(characteristic/affective/behavioral/logic), while the verbs following the physical/categorical nouns/pronouns of subject manifest as characteristic, changing or (consequent)logic(characteristic/changing/logic) (Cai, 2017b).

Likewise, it can also be classified the adjectives or adverbs (adjectives/adverbs) representing the respective nouns/pronouns or verbs to manifest as characteristic/affective/behavioral/logic/spatial/temporal characters for zoological/social nouns/pronouns/verbs, and characteristic/changing/logic/spatial/temporal characters for physical/natural nouns/pronouns/verbs (Cai, 2017b).

Finally, it may further supplement the range (such as size, extent) and relation (such as rank, folk) characters to all nouns, pronouns, verbs, adjectives and adverbs.

Altogether, it is summarized that the nouns/pronouns possess either zoological/organizational/range/relation/logic or physical/categorical/range/relation/logic characters, verbs possess either characteristic/affective/behavioral/range/relation/logic or characteristic/changing/range/relation/logic characters, and adjectives/adverbs possess either characteristic/affective/behavioral/range/relation/logic/spatial/temporal or characteristic/changing/range/relation/logic/spatial/temporal characters.

The congruency of these word-characters in sentence is required for stepwise comprehension of sentence containing polymeaning words. There are two kinds of sequential order for the congruency of word characters in sentence. (a) The latter polymeaning word is congruent to the former words, such as, in sentence of active voice, the polymeaning verb congruent to the former subject. (b) The former polymeaning word is congruent to the latter words, such as, in sentence of active voice, the polymeaning noun/pronoun as subject congruent to the latter verb, in which, the polymeaning word of subject is temporarily retained in short-term memory for comprehension of sentence. Altogether, stepwise congruent comprehension of polymeaning words relies on congruency of word characters by either former to latter or latter to former in sentence.

2.2 Frequent Word Binding

Frequent word binding in phrases, idioms and so on is classified as another type of episodic word-congruency in sentence (Cai, 2017b). The specific meanings of phrases, idioms and frequent binding words determine the congruent meaning of contained polymeaning word.

2.3 Inter-sentential Episodic Congruency

In simple sentence with few intra-sentential clues, it can resort to the inter-sentential episodic congruency of polymeaning-word in the paragraph/text to help understand the congruent meaning of the polymeaning-word.

There are two subtypes of inter-sentential congruency. One is that the polymeaning-word must be congruent in meaning with the thematic field of paragraph, such as physics, biology in natural sciences, management, economy in social sciences, and so on (Cai, 2017b). Another is that the pronoun, representing its noun more concrete in range/relation/logic word characters, should transfer the range/relation/logic word characters of the corresponding noun into the pronoun, providing more clues to determine the congruent meaning of polymeaning-word in sentence of pronoun.

3. Conclusion

It is concluded that the three types of episodic word-congruency, as word character division, frequent binding and inter-sentential congruency, can determine the congruent meaning of polymeaning-word in sentence/paragraph.

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