

Comprehensibility of Interrogative Mood Metaphor in English Academic Discourse

XU Wei¹ and ZHANG Yi²

^{1,2}School of Foreign Studies, Northwestern Polytechnical University, Xi'an, Shaanxi, China, 710129

²Corresponding Author

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Abstract

Based on mood metaphor theory (Halliday, 2014) and written language comprehension theory (Carroll, 2008), this study aims to investigate the comprehensibility of interrogative mood metaphors in academic discourse. A qualitative analysis was conducted in this research and the findings indicated that the mood metaphors were understandable for readers at three stages of their comprehension process. At the first stage, mood metaphors had explicit marks for new information, which made it easier for readers to identify the given and new information. At the second stage, since mood metaphors contained anaphors directly matched to the equivalent antecedents in previous sentences, they could reduce readers' memory burden to find those antecedents in memory for the given information. At the last stage, mood metaphors made the new information and the previous antecedents close in discourse structure, which could help decrease readers' cognitive difficulty in attaching new information to the memory location defined by the antecedents. It is expected that this study could have an implication for future research with regard to the potential cognitive effect of interpersonal metaphorical expressions on academic discourse comprehension.

Keywords: Comprehensibility; Interrogative Mood Metaphor; Academic Discourse

1. Introduction

Academic reading is the footstone of novice's academic learning. There are many factors influencing their reading comprehension. Recently, the view that grammatical metaphor has an effect on reading comprehension has been widely accepted (Shao & Xu, 2015; Sun & Shao, 2011). However, the nature of this effect is rather contentious, which has been debated for years in the fields of cognitive linguistics and second language teaching. The common view is that "the more metaphorical expressions the text remains, the more difficult it is to be understood" (Jin, 2004; Dong & Yang, 2003; Li, 2016). While it should be noted that, it is not all kinds of grammatical metaphor that would lead to reading difficulty, on the contrary, some researchers have found that interpersonal metaphor, especially interrogative mood metaphor, were understandable in discourse (Chen & Huang, 2014). Although the comprehensibility of interrogative mood metaphor has been examined from the perspective of systemic functional grammar (Chen & Huang, 2014; Fan, 1999), few researches conducted psychological investigations related to the comprehension of this metaphorical pattern. Therefore, based on mood metaphor theory (Halliday, 2014) and written language comprehension theory (Corral, 2008), this article aims to investigate comprehensibility of interrogative mood metaphors at each stage of learners' comprehension process during their academic reading.

2. Theoretical framework

2.1 Mood metaphor and interrogative mood metaphor

"Metaphor of mood is a variant of the speech function pattern and a mechanism for the expansion of speech function. Speech function is a complex body consisting of multiple pairs of semantic features, and this speech function system can generate 32 speech functions ($2 \times 2 \times 2 \times 4$). The transformation of any semantic feature will lead to the generation of mood metaphors" (Yang, 2006), including class shift and rank shift type. The shift of semantic features between speech roles or communication items promotes the transformation of speech functions, and this kind of transformation between peers is called "class shift." According to Halliday (2014:135), there are only two basic tasks of "speech role": "give" and "command." And the "commodity exchanged" in communication can also be summed up in two basic types: goods & services and information. The two variables of "speech role" and "commodity exchanged" constitute four of the most important speech functions: "statement, question, command and offer" (fig.1).

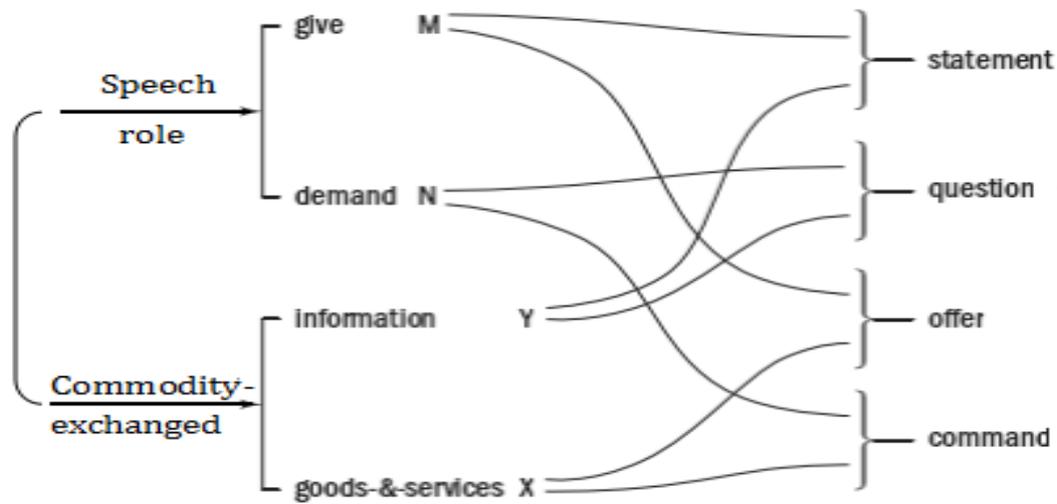


Figure 1: The semantic system of speech function

The category of speech function is embodied in the system of mood. Generally, declarative mood is used to express statements, interrogative mood illustrates questions, and the imperative mood shows command, while “offer” can be conveyed in several different moods. These general forms of speech functions are the “congruent forms”. However, in actual use of language, there is no such a simple one-to-one correspondence between grammatical and semantic types. In fact, one kind of mood can reflect different speech functions, and one kind of speech function can be embodied in different moods.

This essentially involves the transfer of a grammatical domain to another grammatical domain, that is, the transfer from one domain of mood to another. This phenomenon is called metaphor of mood (also called speech function metaphor). Table1 shows the typical and metaphorical realizations of speech functions in mood types.

Table 1: Typical and metaphorical realizations of speech functions in mood types

| speech function mood | statement | question | command |
|----------------------|---------------------------------------|-------------------------------|-------------------------------|
| declarative | I have never let you down | I wonder where you have been. | You should tell me the truth. |
| interrogative | Have I ever let you down? | Where have you been? | Could you tell me the truth? |
| imperative | Admit that I have never let you down! | Tell me where you have been! | Tell me the truth! |

(Fan, 2000: 30)

Based on this table, metaphors of mood based on class shift can be divided into three categories: declarative mood metaphor, interrogative mood metaphor and imperative mood metaphor. This article

will focus on interrogative ones, which can be further divided into two types:

1. Interrogative mood ↘ statement
—a shift from demanding to giving information
2. Interrogative mood ↘ command
—a shift from demanding information to demanding good & services

2.2 Three stages of reading comprehension

Since previous researches have provided extensive evidences that interrogative mood metaphor owned coherent nature (Chang, 2001; Yang, 2006; Zhang, 2014; Hou, 2006; Zeng, 2008), this study would investigate the comprehension of this coherent structure under the guidance of a sentence integration modal -- “given/new strategy” (Carroll, 2008:162), which focuses on the comprehension of anaphoric expressions. According to this strategy, “the process of understanding a sentence in discourse context consists of three subprocesses or stages:

- (1) identifying the given and new information in the current sentence;
- (2) finding an antecedent in memory for the given information;
- (3) attaching new information to the memory location defined by antecedents” (ibid).

2.2.1 The first stage

The first stage is to identify the given and new information in the current sentence. “The Given information refers to information that an author or speaker assumes the reader or listener already knows, whereas new information is information that the comprehender is assumed to not know” (ibid). Most sentences contain both of them. For instances,

- (1) It was **Tom** who broke the cup.
- (2) It was **the cup** that Tom broke.

In the first sentence, it assumed that readers already know that the cup was broken but do not know who did it, thus, “Tom” is the new information, “someone broke the cup” is the given information. And the second sentence assumes that readers know that Tom broke something but not what it was he broke. Therefore, “the cup” is the new information and “Tom broke something” belongs to the given information.

2.2.2 The second stage

The second stage is finding an antecedent (the previous referent) in memory for the given information. “The primary usefulness of this model has been in examining the various possibilities that can occur during stage 2” (Carroll, 2008:163), which includes four comprehension strategies: direct matching, bridging, reinstating old information and identifying new topics of discourse (fig.2).

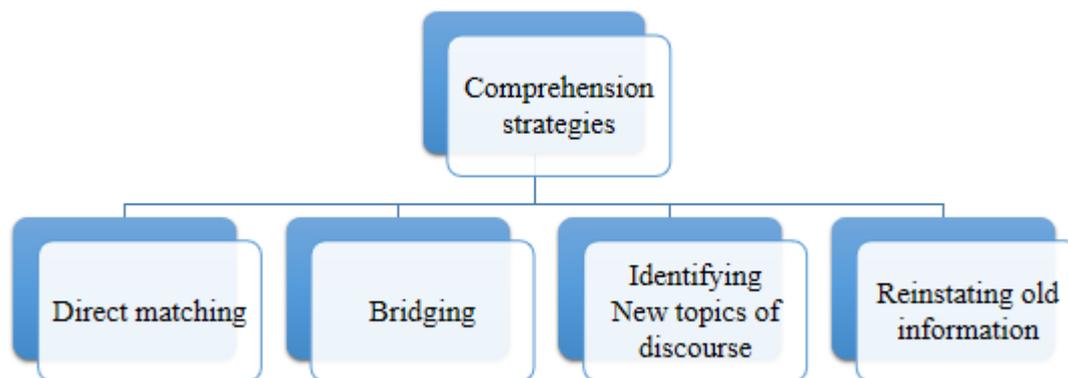


Figure 2: Four comprehension strategies in stage 2

(1) Direct matching

Direct matching is regarded as “the simplest case in which the given information in the target sentence directly matches an antecedent in the context sentence” (Carroll, 2008: 163):

- (1) “We got *some beer* out of the trunk.
- (2) *The beer* was warm”(Carroll, 2008:162).

In comprehending the target sentence (2), readers first divide it into given and new information. As marked in the text, “*the beer*” is given information and “*was warm*” is new. Readers then search their memory for a previous referent (antecedent) to the anaphor *the beer*. Since the antecedent “*some beer*” exists in the context sentence (1). Finally, the new information *was warm* is attached to the previously stored information.

However, “even though direct matches are the simplest case of sentence relations, they are not so simple that they can be reduced to merely searching for a specific word. Finding an antecedent for given information in a target sentence resembles searching for a concept more than searching for a word”(ibid). This distinction is clarified in the following sentences:

- (3) “Last Christmas Eugene got absolutely *smashed*.
- (4) This Christmas he got very *drunk* again”(ibid).

The words *smashed* and *drunk* are different in lexical forms but the same in meaning. Thus, when readers are finding an antecedent in context sentence, they are usually searching for a concept rather than a exact word.

(2) Bridging

In the bridging cases, there is no direct antecedent for the given information but still can tie the sentences together:

- (5) “Last Christmas Eugene went to a lot of *parties*.
(6) This Christmas he got very *drunk again*”(ibid).

In contrast to the direct antecedent pair of (1) and (2) , in example(5) and (6), readers would need to make a bridging inference when comprehending these sentences, such as that Eugene got very drunk last year, so as to make sense of the word *again*. Haviland and Clark (1977) have proved that target sentences that require bridges take longer to comprehend than those for which there is a direct match of antecedents, which means that if academic writers tends to arrange no direct pair of antecedent and anaphor(the referring expression) in their articles, it will cause difficulty for readers to understand them.

(3) Reinstating old information

To understand this strategy, it is useful to compare the following two passages:

- (6) “I am trying to find a black dog. He is short and has a dog tag on his neck that says Fred. Yesterday that dog bit a little girl. She was scared, but she wasn’t really hurt” (Carroll, 2008:162).
(7) “Yesterday a black dog bit a little girl. It got away, and we are still trying to find it. He is short and has a dog tag on his neck that says Fred. She was scared, but she wasn’t really hurt” (ibid).

Readers probably found that the target sentence (the last sentence) in the first passage was easier to comprehend than that in the second passage, because a direct antecedent (*a little girl*) is presented near the anaphor (*she*). The problem in the second passage is simply that the antecedent is too far removed from the target, which “is not only a cognitive difficulty for the comprehender but also an unexpected burden as well” (ibid).

(4) Identifying new topics of discourse

All of above-mentioned three strategies function to relate a target sentence to earlier information, which are based on an assumption that the target sentence contains both new and given information. However, “sometimes the information is all new and the target is meant to establish a new topic of discourse”(Carroll, 2008:164). The explicit markers, such as *Now, I want to move on to ...* or *This concludes our discussion of ...* are used in identifying new topics of discourse. However, Carroll suggests, “we know very little about the way comprehenders use more subtle cues to detect topic shifts” (Carroll , 2008:165).

Thus, the information of four comprehension strategies in stage two is summarized in the following table.

Table 2 Information of four comprehending strategies in stage 2

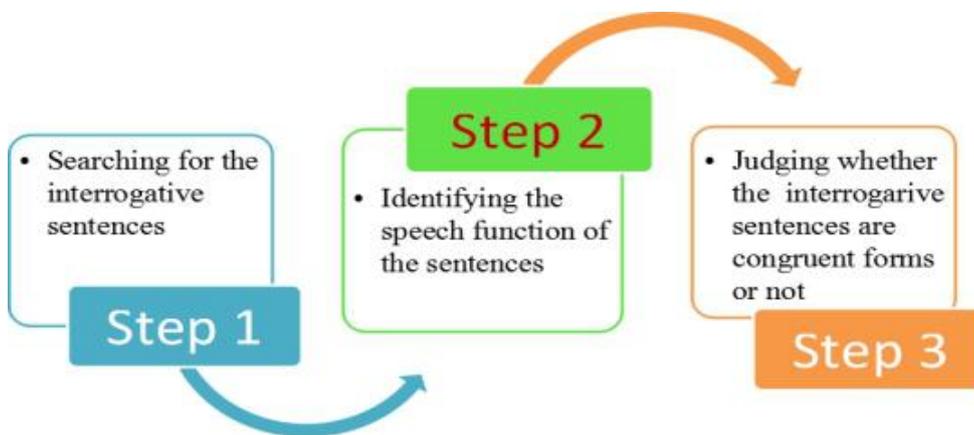
| Comprehending strategies | Using Condition-1 (target sentence) | Using Condition-2 (context sentence) | Evaluation |
|-------------------------------------|--|--|--|
| direct matching | with given information and new information | with direct antecedent for the target | easiest and fastest |
| bridging | | without direct antecedent for the target (with author's intension) | takes longer time; poses comprehension difficulty |
| reinstating old information | | with antecedent but is too far removed from the target (caused by author's carelessness) | takes longer time; poses unexpected cognitive difficulty and memory burden |
| identifying new topics of discourse | only with new information | | |

2.2.3 The third stage

The third stage is “the process of attaching new information to the memory location defined by antecedents” (Carroll, 2008:165). The process of adding new information to given information is to subordinate the former to the latter. “That is, the new information is generally taken as an elaboration, sometimes a small detail, of the given information. Once introduced, this new information may itself serve as an antecedent for later sentences, which are subordinated to it. Thus, the natural result of this integration process is a hierarchical structure in episodic memory” (ibid).

3. Identification of interrogative mood metaphor

This study follows Fan’s (2000) approach to identifying the interrogative mood metaphor, which is made up with the following three steps.



The first step is to select all the interrogative sentences in the 60 research articles, because the sentence categories are corresponding to the mood of sentences (Wu, 2016).

The second step is to identify the speech functions of those interrogative sentences. Based on Fan's research, the “expected response to speech functions” can be a tool to figure out the sentence’s speech function. The four speech functions (offer, command, statement, question) are matched by a set of desired responses: accepting an offer, carrying out a command, acknowledging a statement and answering a question. Table 3 (adopted from Halliday 2014:135) illustrates the responses of different speech functions.

Table 3: Typical realization of speech functions and responses

| Speech function | Initiate mood | Respond | |
|-----------------|--|--|--|
| | | Expected | Discretionary |
| Question | Interrogative: yes/no Did he give her a teapot? | Answer (yes/no) Yes, he did. | Disclaimer (don't know/ won't say) I don't know. |
| | Interrogative: WH- What is he giving her? | Answer (group/phrase) A teapot | Disclaimer (don't know/ won't say) I don't know |
| Command | Imperative Give me that teapot! | Undertaking Here you are | Refusal I won't |
| Statement | Declarative He is giving her the teapot. | Acknowledgement Is he? | Contradiction No, he isn't. |
| Offer | I'll / Shall I give you this teapot | Acceptance Yes, please, do! | Rejection No, thanks. |

The third step is to judge whether the speech function and mood type are congruent. If the sentences' speech functions are identified as questions or offers, they are congruent expressions. However, if their speech functions turn out to be commands or statements, these sentences are metaphorical expressions.

4. Analysis of comprehensibility of interrogative mood metaphor at three comprehension stages in academic discourse

4.1 Stage 1: identifying the given and new information in the target interrogative mood metaphor

In this stage, readers need to identify the given and new information in a current interrogative mood metaphor expression. Usually, the given and new information is manifested in this kind of interrogative patterns. The referents of interrogative words (e.g. what, where, which, who, when and how) often indicate new information which the academic authors are going to explain in the following

part. And the rest part is usually the old information. For instance,

(9) **What** are the consequences of this perceptual problem? (*Language Learning* 64:3, 2014, DOI: 10.1111/lang.12063)

(10) **How** can we operationalize imagery capacity and sensory preferences for research purposes? (*Language Learning* 63:3, 2013, DOI: 10.1111/lang.12005)

(11) While it may be logical to include the assessment of the learners' visual style in the study of vision, **why** would auditory style be relevant in this respect? (*Language Learning* 63:3, 2013, DOI: 10.1111/lang.12005)

(12) **How long and when** during the composing period, for example, do L2 writers dedicate time to constructing a text or rereading or revising their draft? (*The Modern Language Journal* 100:3, 2016, DOI: 10.1111/modl.12338)

It is apparent that the speech functions of these interrogative sentences are giving information but not demanding information, thus they are metaphorical expressions. We may find that, in this kind of metaphorical expressions, even without context, readers may easily identify the old and new information. In those four "questions", the underlining parts are new information of that sentence. It should be noted that the question words "what", "how", "why" and "how long and when" are the explicit markers of the new information in those sentences. Taking (9) as example, the old information is "this perceptual problem" and the new information obviously is "the consequences of the problem" raised by the wh-word "what". If it is a declarative sentence, it might be the form that "the consequences of this perceptual problem are...". Without the explicit marker--question word "what", it would be less convenient for readers to identify the information structure.

To make this process more clear, the following figure shows the diagrammatic presentation of the stage.

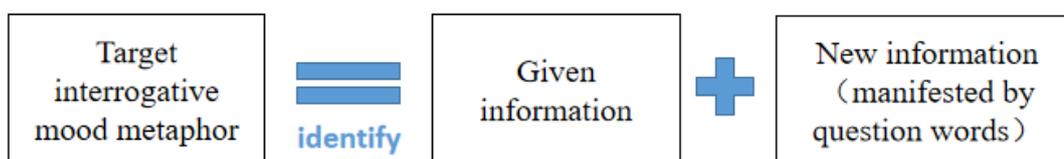


Figure 3: The first stage of comprehending interrogative mood metaphors

4.2 Stage 2: finding an antecedent in memory for the given information

After identifying the new and given information in the current interrogative mood metaphor, readers need to find an antecedent in memory for the given information in the mood metaphor. It is found that readers could apply the direct matching strategy to interpret the interrogative mood metaphors for the reason that these metaphorical patterns usually contain the exact anaphors (the referring) which are equivalent to antecedents (previous referent) appearing in the previous text. It is

noteworthy that the direct matching strategy is the simplest and the most convenient approach for comprehenders to link the given information to the antecedent in memory. This fact is associated with the role of working memory in discourse comprehension. It has been found that a direct pair of anaphor and antecedent in anaphoric expressions can avoid doing inference in academic discourse, which can save learners' time and energy during their reading comprehension. Besides, the anaphors and antecedents are appearing in the successive sentences, in other words, the distances between those anaphors and antecedents are short, which can reduce the memory burden and avoid cognitively difficulty for the comprehenders. In this situation, it may not cause problem for readers to find the corresponding content in their memory for the given information. There are some examples to make this claim.

(14) *This evidence is particularly striking because such **perceptual discrimination difficulty** is observed even in highly proficient bilinguals, who receive an early and extensive exposure to Catalan and who use both languages in their everyday life. What are the consequences of **this perceptual problem**?* (Language Learning 64:3, 2014, DOI: 10.1111/lang.12063)

(15) *In light of these theoretical and empirical accounts, **speech perception** can be considered to play a key role in **L2 speech** learning, especially with respect to the influence of perception on production. If this is the case, what are effective training techniques for **L2 speech perception**?* (Language Learning 66:4, 2016, DOI: 10.1111/lang.12167)

In the example (14) and (15), the speech functions of the interrogative sentences are giving information but not demanding information, thus they are metaphorical expressions. It can be found that in (14), "this perceptual problem" in the interrogative mood metaphor is the anaphor for the antecedent "perceptual discrimination difficulty" in the previous sentence, while in (15), "L2 speech perception" is the anaphor for the antecedents: "speech perception" and "L2 speech". As we can see, those two pair of anaphors and antecedents can be directly matched without making an inference. Besides, the distances between the anaphors and the antecedents are short. Therefore, it is easy for readers to link the antecedent in their working memory to the anaphor in the successive sentence. Thus, it can be reasonable to draw a conclusion that interrogative mood metaphors are easy to comprehended at the second stage-- "finding an antecedent in memory for the given information" (Carroll, 2008: 162). The following graphical representation tends to make this comprehension stage more intuitive.

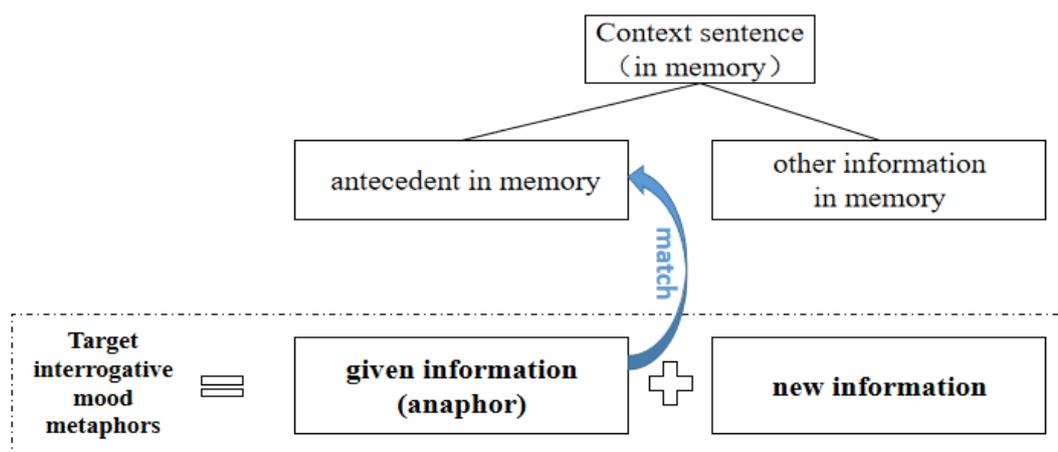


Figure 4: The second stage of comprehending interrogative mood metaphors

It is also found that comprehenders could apply the strategy of identifying new topics of discourse in this stage. The metaphorical expressions are usually appearing at the beginning of paragraphs or articles, putting forward the topic of those paragraphs or papers. Their following sentences are answers towards them, which discuss the topic in detail. This interrogative mood metaphors are eye-catching when compared to their congruent forms, thus, it is easier for readers to capture the new topic in the text. Besides, the metaphorical expressions are similar to rhetorical questions, which rise questions and answer them in the following section. In this way, semantic coherence can be established among the interrogative mood metaphors and the following sentences, which also make it easy for learners to understand the new topic in that part. For example,

(16) Does a L2 have an influence on L3 speaking proficiency and, if so, is its effect different from L1 influence? *The L3 literature suggests that both L1 and L2 typology in relation to the L3 and the L1 and L2 proficiency levels play a role (Cenoz, 2003; Jaensch, 2013; Murphy, 2005). (The Modern Language Journal 97: 1, 2013, DOI: 10.1111/j.1540-4781.2013.01428.x)*

(17) If speakers of different languages think differently to a certain extent, what happens when you learn a new language? *The available literature has documented two major patterns of cognitive restructuring in bilinguals: conceptual convergence and conceptual switching (see Pavlenko, 2005, for theoretically possible patterns). (Language Learning 66:3, 2016, DOI: 10.1111/lang.12172)*

Above two examples are opening parts of literature review sections. Since they occur at the beginning of those new paragraphs, they contain all new information which is going to be discussed in the following part. The wordings like “*The L3 literature suggests*” and “*The available literature has documented*” in the sentences after the metaphors indicate that they are the answers towards the questions raised by mood metaphors. Through “answering questions”, the literature related to a certain topic would be reviewed coherently and logically after the interrogative mood metaphors. Those metaphorical variants are eye-catching and provoking, which may arouse comprehenders’ attention to

the new topics put forward by the mood metaphors. Thus, interrogative mood metaphors are new topics in a certain part of academic discourse, and they are easily to be captured by comprehenders.

4.3 Stage 3: attaching new information to the memory location defined by antecedents

As we have discussed in the above part, interrogative mood metaphors are equipped with explicit anaphor, which can manifest new information. Besides, the distance between the anaphor and antecedent is short, which means “the location defined by antecedent” is close to the anaphor. It is, therefore, easy for readers to attach the new information in memory, which is the last stage to build coherence in the mind. For instance,

*(18) This evidence is particularly striking because such **perceptual discrimination difficulty** is observed even in highly proficient bilinguals, who receive an early and extensive exposure to Catalan and who use both languages in their everyday life. What are the consequences of this perceptual problem? (Language Learning 64:3, 2014, DOI: 10.1111/lang.12063)*

As we identified before, the new information in the interrogative mood metaphor is “the consequences” which is manifested by the wh-word “what”. And the location identified by the antecedent is “perceptual discrimination difficulty”, which is close to the new information. Thus, it is easy to attach new information to the spot defined by antecedent. This process is represented in the following figure.

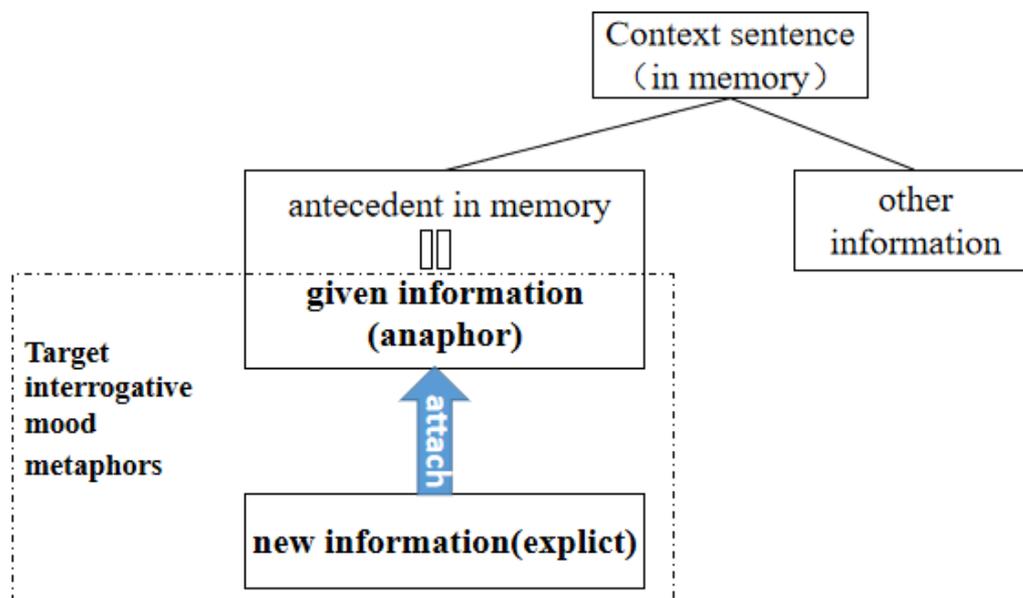


Figure 5: The third stage of comprehending interrogative mood metaphors

4. Conclusion

Situated in academic settings, this study investigated how readers interpret interrogative mood metaphors at each stage of their cognitive comprehension process. It was found that this kind of mood metaphors were easily comprehended by learners at three stages of their reading comprehension. At the first stage--“identifying the given and new information in the current mood metaphor”, it was

shown that readers could identify these information easily because mood metaphors had the explicit markers for new information. At the second stage-- “finding an antecedent in memory for the given information”, direct matching strategy could be applied by comprehenders because those metaphorical patterns usually contained anaphors directly matched to the antecedents in memory, which can reduce readers’ memory burden in this stage to some extent. Besides, comprehenders could also apply the strategy of identifying new topics of discourse so as to get the key information in text. At the last stage-- “attaching new information to the memory location defined by antecedents”, readers could do it without problem for mood metaphors made manifested new information and antecedents close in discourse structure, which could decrease learner’ cognitive difficulty. To conclude, combining the analysis of systemic functional linguistics and psycholinguistics, the current study would be beneficial for second language learners to gain a deeper understanding of the comprehension process of interrogative mood metaphor in academic context. In addition, the study has various implications for future research with regard to the potential cognitive effect of interpersonal metaphorical expressions. This study is limited to the discourse analysis, therefore, it would be wise for other researchers to conduct psychological experiments.

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