

Frame Theory and Its Application to Discourse-based English Listening Teaching

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Abstract

Cognitive frame is a representation of the network of human experience and particular elements in a frame will be brought into salience in a given scene, which manifests the effectiveness and economy of information transmission. Encyclopedic knowledge stored as knowledge frames in the mind and discourse awareness are two important foundations for discourse-based listening training. By employing frames in teaching of discourse-based listening comprehension and constructing discourse on the mode “thematic frame plus

several sub-frames”, this paper will explore how important frames are to teaching of English listening comprehension and how to cultivate students’ discourse awareness in listening teaching. Several practical methods for improving students’ discourse awareness including the recognition of the overall discourse frame and identification of cohesive and coherent devices, as well as some listening strategies such as information prediction and keywords location, have been provided.

Keywords: frame, cognitive structure, discourse-based English listening teaching

1. Introduction

M. Minsky, an American computer scientist, systemically elaborated frame theory in 1974. According to him, a frame is a data-structure stored in the memory for representing a stereotyped situation and a network of nodes and relations. Information attached to it can be retrieved at any time as background knowledge for the interpretation of new sentences and situations. The lower levels of a frame have many slots which remain to be filled by specific instances or data (Minsky, 1974). C. J. Fillmore was the first linguist who brought Frame Theory into linguistic studies in 1975 and defined frame as “any system of linguistic choices...that can get associated with prototypical instances of scenes (Fillmore, 1975: 124)”. In *Frame Semantics* (1982), he further enriched the theory from the cognitive perspective, proposing that “frame is a way of cognitive structuring”, a kind of “knowledge and concepts related to some frequently recurring scenes”, “a stereotype of certain thing or event” and “an interface between pure linguistic knowledge and conceptual knowledge” (Fillmore, 1982; Fillmore & Atkins, 1992, 2000; Zhu, 2005). Many following linguists (Ungerer & Schmid, 1996; Lee, 2001; Croft & Cruse, 2004; Evans & Green, 2006 etc.) have also made further elaborations on frame. After its initiation, Frame Theory has been applied to discourse analysis by many scholars including Minsky (1974, 1980), van Dijk (1980), McCarthy (1991), etc. However, few attentions have been directed at listening discourse analysis. We maintain that frame construction will be greatly conducive to forming discourse awareness in listening comprehension. Following Frame Theory, this paper will explore how important frames are to teaching of English listening comprehension and how to cultivate students’ discourse awareness in listening teaching.

2. Construal of Frame

According to Minsky (1974), frames, which are packets of information contained in an information retrieval network, are constituted by numerous common and familiar activities. But how they are structured and what are the features of their internal structure? These questions have been left unsolved. As is argued by Minsky, “the top levels of a frame are fixed, and represent things that are always true about the supposed situation (1974: 2)”. In this sense, a frame, with clearly defined boundaries, comprises top and lower levels. The top levels, regarded as fixed structures, are relatively stable while lower levels have one or more slots which are reserved only for fillers that can meet specific conditions. However, specific events in everyday life are not entirely stored knowledge and definite event sequences. Instead, they are online cognitive product related to certain context. Therefore, frame construal is dynamic. Though usually one event can only activate one event frame, many event frames may be

recruited simultaneously in different contexts because new frames will be constructed in time, which may finally give rise to re-interpretation of utterance meaning. A good case in point in English is the “garden path sentence”, as is exemplified by (1):

- (1) I am afraid of Ali’s powerful punch, especially since it had already laid out many tougher men who had bragged they could handle that much alcohol (Clark & Clark, 1977; Cited from Gui, 2000: 105).

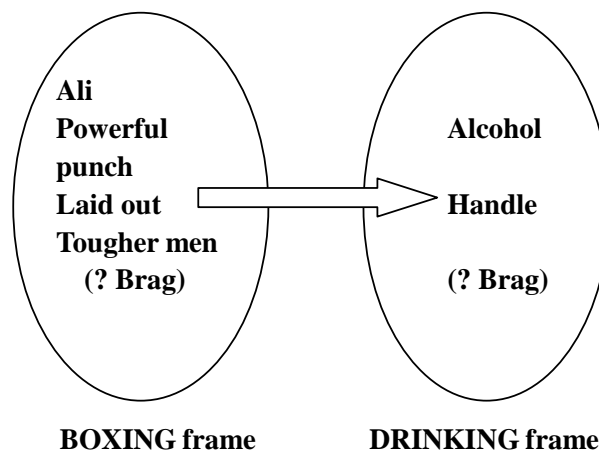


Figure 1. Switching from BOXING frame to DRINKING Frame

The word *Ali* in most people’s awareness is prone to be associated with the boxing champion Muhammad Ali. Therefore, on hearing the word, all encyclopedic knowledge about Ali is evoked from the hearer’s mind. On the other hand, *powerful punch* is closely related to the prototypical meaning of *punch* “(boxing) a blow with the fist”. As a consequence, the hearer’s knowledge frame about the boxing champion Muhammad Ali is activated, which is further verified by *laid out* and *tougher men*. But with the appearance of *brag* and *alcohol* which are incompatible with the BOXING frame, DRINKING frame is recruited and the non-prototypical meaning of *punch* “an iced mixed drink” is then invoked in this frame. In switching from BOXING frame to DRINKING frame, the most appropriate frame is selected for optimal semantic relevance. As a conceptual network, frame conveys limited information. In human cognitive activities, knowledge network or knowledge frame will be activated spontaneously and extant frames will be expanded if they are necessary to accomplish dynamic cognitive processing. The concept of framing, as Fillmore (1982) argued, is that of the prototype or paradigm case. Following this idea, in order to perceive something or to attain a concept, what is at least sometimes necessary is to have in memory a repertory of prototypes, the act of perception or conception being that of recognizing in what ways an object can be seen as an instance of one or another of these prototypes.

3. Frame Theory and Discourse-based English Listening Teaching

Discourse is the kind of natural language that is not fully governed by grammar but encoded with complete meaning in a given situation (Hu, 1994). It usually refers to a sequence of

syntagms or utterances as a whole. In other words, a discourse always represents a complete event. Beaugrande and Dressler (1981) proposed that discourse production and comprehension should be expounded on the basis of cognitive processing and activation of related knowledge. McCarthy (1991) emphasized that cognitive links with the discourse should be established in its interpretation (Cited from Wang, 2007: 358). Knowledge frame will be invoked as background knowledge at any time in interpreting a discourse. Listening discourse is a particular kind of discourse, in whose interpretation memory plays a vital part. Psycholinguists distinguish three categories of memory: sensory register, short-term memory and long-term memory (Gui, 2000: 103-108). Knowledge frames in human mind are mainly composed of chunks or networks and stored with relative stability in long-term memory, and will be activated in particular situation.

3.1 Encyclopedic Knowledge

Humans are endowed with inference ability and they are able to make default inference about absent information through background knowledge and contextual cues, thus uncovering implicit information. In the conception of meaning, cognitive semanticists advocate the encyclopedic view instead of the dictionary view. They hold that encyclopedic knowledge is a knowledge system similar to networks and covers a wide range of knowledge including dictionary knowledge. As Evans and Green put it, “while the dictionary view represents a model of the knowledge of linguistic meaning, the encyclopedic view represents a model of the system of conceptual knowledge that underlies linguistic meaning (2006: 215).” Encyclopedic knowledge is not only a linguistic phenomenon but also a model of knowledge that relates to cognitive commitment and involves a series of phenomena. Relevance Theory believes that verbal communication is a conscious cognitive activity and by virtue of cognitive environment interlocutors can make inference about ostensive behaviors under the guidance of relevance principles and achieve optimal semantic relevance through encyclopedic knowledge.

Encyclopedic knowledge is stored in the mind as frames, acting as background knowledge for constructing and interpreting discourse. Lee (2001: 8) thinks that “background knowledge (beyond dictionary definition) is what we call frames.” He took the word *wicket* as an example. If *wicket* is defined as “a set of three upright sticks with two small sticks on top of them” in the dictionary, it will be still difficult to understand for those who lack relevant background knowledge. But it will be much easier to understand if dictionary definitions are combined with encyclopedic knowledge (in this case, encyclopedic knowledge of all the rules in cricket). The introduction of encyclopedic knowledge will stimulate the formation of WICKET frame. As a cognitive repository, frames exert great influence on the interpretation of concepts.

Frames are closely related to human embodied experience which is the prerequisite for the construction of frames in the mind. If one is equipped with little relevant experience and knowledge frames of a thing, s/he cannot gain a true understanding of it. But familiarity and a better understanding can be achieved when s/he has relevant background knowledge, which can even make up for linguistic inadequacies. If students get little acquaintance with western

socio-cultural knowledge and relevant scientific knowledge, their judgments made by familiar thoughts and logic can be wrong.

Teachers are expected to provide more English cultural knowledge consciously in class while after class students themselves are supposed to get access to various knowledge, such as politics, economy, diplomacy, religion, history, geography, and socio-culture so that they can get themselves acquainted with all kinds of linguistic materials and will be aware of the differences between English and Chinese cultures and consequently enrich their encyclopedic knowledge. Only when a sufficient repository for knowledge frames in their minds has been established can students construct macro frame for and make informative presupposition of the material and can their overall grasp ability of the discourse be enhanced.

3.2 Discourse Awareness

In favor of the view that language is discourse, McCarthy (1991) and McCarthy & Carter (1994) argue that language features ought to be described from the perspective of discourse and discourse competence should be one of the goals of foreign language teaching. Therefore, teaching of listening comprehension needs to, on the one hand, focus on cultivating students' discourse awareness and enhancing their ability to grasp the discourse, and on the other encourage them to construct and interpret discourse with acquired linguistic knowledge. Two suggestions have been provided as to how to raise students' discourse awareness.

First of all, they should learn to recognize the overall discourse frame, to activate related knowledge system in the mind, to presuppose the contents of a topic based on previous experience and to guess speakers'/writers' intentions and emotions. In such a process, the topic sentence is the crux of recognizing the overall frame because it is the focus of discourse meaning. Meanwhile, attention should also be paid to genre and discourse features, especially structural features of discourse which are prodigious impetuses to overall frame construction and discourse inference. The following passage is taken from a listening test. As an illustration, we will attempt to explore features of its frame.

(2) My father woke me up early one morning when I was fourteen and announced "Get up; you are going with me to cut grass." I felt proud and excited because my father thought I was responsible enough to help him in his business. Still, that first day was very hard. From sunrise to sunset, my father, my younger brother and I cut in the very large yards in well-to-do part of the city. By the end of the day I was exhausted, but I felt good. I put out a hard day's labor and earned six dollars. One day, my father spotted some weeds I have missed and pulled me aside. "Cut that section again!" he said firmly "and don't make me have to tell you again." The message was very clear. Today I stress the importance of doing the job right the first time. In every job I have held from cutting lawns to washing dishes to working a machine on the construction site, I have learned something that helps me in my next job. If you work hard enough, you can learn from any job you do (CET4, 2006).

As a typical narrative, this passage makes clear its theme at the very beginning. A knowledge frame about "cutting grass" is activated and elements in CUTTING GRASS frame including

“cut”, “large yard”, “be exhausted”, “labor”, “earn six dollars”, “some weeds”, “cutting lawn”, etc., will be searched and activated. As given information, these will be clues to text comprehension. However, the amount of information stored in a frame varies across different individuals since frame is intimately related to experience. In listening comprehension, the larger the amount of information activated by a single frame and the more the presupposed information is gained, the less the effort will be paid in interpreting the discourse. In addition, conclusions are usually given at the end of a narrative. Therefore, the ending of a narrative conveys considerable amount of information and should also be focused on.

Secondly, they should learn to identify cohesive and coherent devices. In detail, from the micro level, they should understand discourse construction devices and diction. Discourse markers are the foundations of discourse construction and exercise a great influence on the dynamic identification of frames. A discourse may be constructed by one single frame or a combination of a thematic frame and several sub-frames. In a multi-frame discourse, discourse markers play a vital role. Sometimes, transitional words in linguistic information act as marks of shift from one frame to another, and lead to the re-construal of meaning. For example:

(3) A: Hi, Joe. Haven't seen you for quite a while, are you fine?

B: Oh, yes, but luck seems to go against me. I have a car accident, only some minor injures, though.

According to Peng (2005: 102), interaction frame and cognitive frame are frequently employed in communication. The first part in the above conversation belongs to interaction frame which is quite regular with question-answer sequence. However, the adversative *but* shifts the interaction frame into cognitive frame and knowledge frame about an accident is activated. Elements such as “injure”, “blood”, “die”, etc. in an ACCIDENT frame will be spontaneously evoked and “minor injure” is the focus of understanding this short conversation. Certainly, not all coherence is achieved by ostensive cohesive and coherent devices. Sometimes, knowledge frame inference should be invoked to obtain optimal semantic relevance. For example:

(4) A: Look, the view is fantastic. Could you take a picture of me with the lake in the background?

B: I am afraid I just run out of film (CET4, 2004).

(4) flouts the maxim of relation in Crice's Cooperative Principle. Firstly, keywords including *view*, *fantastic*, *take a picture* and *background* are salient in the man's utterance and these words will activate the TAKING PHOTOS frame (Figure 2) though not all of them are prototypical members in this frame. In the knowledge frame, relevant elements about the event of taking photos will be recruited. Secondly, in the woman's utterance, *run out of film* will probably activate the prototypical meaning of *film* “movie”, but the listener will soon realize the mismatch in such an interpretation. Then she will retrieve other meanings of *film* based on the event of taking photos and consequently the meaning “photographic film” is activated. By saying she has run out of film, the woman implicitly turns down the man's

request.

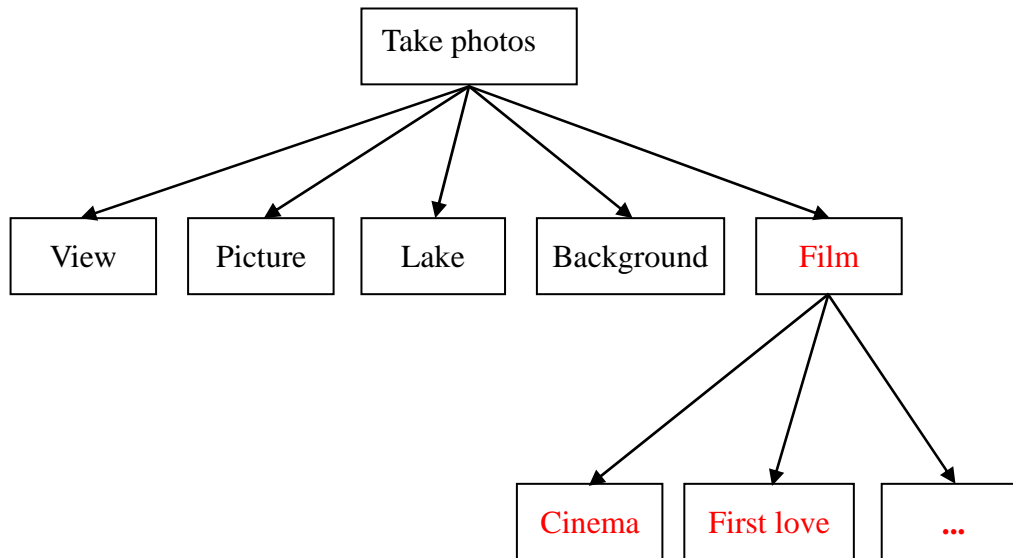


Figure 2. The TAKING PHOTOS frame

3.3 Listening Strategies

Traditional teaching of listening comprehension has been mainly confined to sentence level and paid much attention to pronunciation of words, liaison, identification of phrases and comprehension of clauses. In contrast, by focusing on discourse cohesion and coherence, discourse-based listening teaching aims to attain an overall grasp of the discourse so that a detailed location of other elements can be realized.

3.3.1 Information Prediction

Information prediction, which is a frequently used listening strategy, refers to intuitive or experiential prediction on what will happen in following discourse in the light of contents related to certain topic before or in listening. Predicting is actually a process of matching between given information and information frame in the mind. Contents presupposition of the discourse can be made by activating knowledge frames in the mind and will be validated in listening comprehension. Information prediction mainly includes prediction by title, prediction by topic sentences and prediction by choices and so forth.

1) Prediction by title

It refers to prediction made on the basis of the title of a discourse which is the information focus. Discourse information that is about to come in the following can be predicted by retrieving stored information evoked by the title and filtering out irrelevant elements. A discourse usually comprises a thematic frame and several sub-frames and the title is often the topic in the thematic frame. Once the thematic frame is set, knowledge frames on the topic and encyclopedic knowledge will be activated. Consequently, a plausible prediction of the whole discourse can be given. In listening training, English teachers can tell their students the

title of the listening text in advance so that students can predict what is to come by it and verify their prediction in listening comprehension. In addition, an introduction of the background knowledge should be provided when it comes to unfamiliar topics, for instance, a text on Israeli-Palestinian conflict. Teachers are expected to give some background information before listening, such as an introduction of “West Bank”, “Gaza Strip”, “one-state solution”, “PLO”, “Ehud Olmert” and “Mahmoud Abbas” and so forth so that students can construct a cognitive frame for Israeli-Palestinian conflict beforehand and then make prediction through it.

2) Prediction by topic sentences

More often than not, a discourse is structured as “Thematic frame + Sub-frame₁ + Sub-frame₂ +...+ Sub-frame_n” and topic sentences are usually the core of sub-frames. Thematic frame carries the macro meaning of the text and projects specific meanings onto sub-frames. Therefore, it is of great importance to understand the topic sentences because rich detailed information conveyed by them is always the key points in various examinations. For example, the thesis statement of an argumentation is usually put at the very beginning of the discourse while the topic sentence at the beginning or end of the discourse. Thus, both the beginning and the end of a text are very important. So in daily training students’ ability to identify topic sentences should be developed. What is more important to discourse-based listening is that students should learn to summarize features of various genres and familiarized themselves with those texts.

3) Prediction by choices

It is only applicable to those listening materials with choices. In predicting, commonalities across all the choices should be extracted first and integrated to access to a frame more approximate to the prototypical one. But it is quite difficult to predict because choices given may be instable and some may even contain subjective factors from test makers.

3.3.2 Location of Keywords

Some students are poor in grasping and cognizing the whole listening text, especially for those relatively heavily loaded discourse in the processing of which their memory becomes disconnected. One of the most effective ways to cope with this problem is to find out the keywords of the discourse. Discourse-based listening comprehension does not require students to understand each and every word in the discourse but they are supposed to focus on those keywords, which are the pivot in comprehending the discourse. Through keywords, relevant conceptual frame can be constructed and maximal information about the discourse can be gained. Keywords location mainly comprises location of markers and location of transitional words.

1) Location of discourse markers

Discourse Markers are words with prototypical meaning. They are prototypical members in a frame and play an important role in constructing that frame. In other words, the occurrence of some markers marks the establishment of corresponding frames.

2) Location of transitional words

Sometimes, information in long-time memory is recruited to construct cognitive frames but transitional words may shift the already built frame to another so as to re-construct the meaning (Ma, 2007). The construction of frames is dynamic while transitional words usually act as markers for newly created frames. For example:

(5) I let my accountant do my taxes because it saves times; Last spring it saves me ten years (Coulson, 2001; Cited from Ma, 2007: 77).

(5) is composed of two frames. The first part of it evokes an event frame in which a businessman asks his accountant to pay his taxes. *Times* echoes to *years* in the second part. Meanwhile, as a transitional word, *years* which means the years in prison introduces the second frame, an event frame in which a dishonest businessman employs an accountant to do illicit transactions for him. To sum up, keywords are indispensable components of a frame and prototypical members in it. Therefore, it is of great importance to grasp keywords. In teaching of listening comprehension, teachers need to cultivate students' capability to grasp keywords and enhance their ability to identify prototypical members in the frame, as well as to distinguish atypical members.

4. Conclusion

The cultivation of frame awareness is an important way to improve students' capability in listening comprehension. Encyclopedic knowledge stored as knowledge frames in the mind and discourse awareness are two important foundations for discourse-based listening training. Employing frames in teaching of discourse-based listening comprehension and constructing discourse on the mode "thematic frame plus several sub-frames" are conducive to discourse-based listening comprehension. This paper has explored frame theory in listening discourse and provided some specific listening strategies. Frame theory is much more applicable in processing discourse with regular forms and fixed contents since frames are relatively stable than it is in processing discourse with irregular forms and contents which need to be processed by integrating the advantages of various cognitive structures including schematic knowledge, script knowledge and idealized cognitive model, etc. It is guidance not only to discourse-based listening comprehension but also to reading, writing and vocabulary memorization. Therefore, investigations on Frame Theory remain to be furthered on different levels.

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