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The Conceptual Mapping Model in Consecutive Interpreting Teaching
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Abstract:
This paper focuses on the theory of how to reduce and focus cognitive overload in consecutive interpreting. Within the framework of Relevance Theory (Sperber and Wilson 1986), a cognitive approach has been adopted to build a conceptual mapping model, which (1) differentiates cognitive abilities from language-related interpreting skills, (2) explains a hierarchy of cognitive constructs (known as 'main concepts' and 'minor concepts'), and (3) suggests three working strategies to optimize the interpreter's limited cognitive processing resources. Consecutive interpreters are encouraged to allocate their attentional resources given to information processing by using filtering (attention to main concepts of speaker's discourse), rearranging (using a layered schema of concepts) and reproducing (using linguistically clear, audience-oriented structures to reproduce concepts).

Keywords:
Interpreting Studies; interpreter training; cognitive psychology; performance; mental workload.

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1 The Research Context

Globalization has enhanced the public's demand for more qualified translators and interpreters (Austermühl 2003; Amato and Mead 2002). For qualified interpreting, besides their language and interpreting skills, interpreters must equip themselves with highly specialized subject knowledge, as well as full awareness of a working code of ethics in various social settings. To meet the increasing need in the interpreting market, there has been an ever-growing number of tertiary education institutions becoming involved in the formal training of translation and interpreting professionals (Arjona-Tseng 1994). Given that interpreting activities may take various forms, this paper will base its discussion on consecutive interpreting. With an aim of improving interpreting performance and the teaching quality of interpreting, this paper will discuss how to resolve the 'cognitive overloads' that often occur in the practice and teaching of consecutive interpreting.

2 What is Consecutive Interpreting?

Consecutive interpreting refers to the rendition of the whole source speech segment by segment; the interpreter has chances to take notes during the interpreting process. As for the length of this segment, controversies exist. According to AIIC (Association Internationale des Interprètes de Conférence), this segment could be "up to approximately 15 minutes." However, Pöchhacker (2004: 18-19) breaks down the traditional boundary for consecutive interpreting by re-setting the continuum for the utterances to be processed and interpreted:

Since consecutive interpreting does not presuppose a particular duration of the original act of discourse, it can be conceived of as a continuum which ranges from the rendition of utterances as short as one word to the handling of entire speeches, or more or less lengthy portions thereof, 'in one go' [...] Further, he divides the notion 'consecutive interpreting' into two categories: classic versus short: "Consecutive interpreting with the use of systematic note-taking is sometimes referred to as 'classic' consecutive, in contrast to short consecutive without notes, which usually implies a bidirectional mode in a liaison constellation" (ibid.).

Generally, consecutive interpreting is regarded as one of the two working modes in international conferences, in which simultaneous interpreting plays the dominant role.
Compared with simultaneous interpreting, consecutive interpreting may actually be used more often. This is partly due to the limited numbers of qualified simultaneous interpreters and to technical difficulties (Gile 2001), and partly due to the fact that simultaneous interpreting is not always needed by clients. Simultaneous interpreting has the advantage of quick delivery, but a disadvantage in terms of the amount of information delivered. In contrast, consecutive interpreting takes time but may transfer more accurate information (Chernov 1994; Phelan 2001). In the interpreting market, there are clients who are very strict with the completeness of information and do need the thinking time, especially during the process of negotiation (Seleskivitch 1978). Therefore, in those situations, consecutive interpreting is given priority. Moreover, the distinction between classic consecutive and short consecutive has further widened the utility range of consecutive interpreting; i.e. consecutive interpreting is also used in community interpreting, in which short phrases (sometimes even one word) and batches of sentences are interwoven in the dialogues.

3 The Main Problems in Practice and Teaching

Among the difficulties in interpreting situations, our concern is focused on cognitive difficulty. An empirical study on consecutive interpreting conducted by Peter Mead (2002) has shown that lack of fluency of delivery has been found to be mainly caused by cognitive difficulties rather than linguistic difficulties. The main cause of cognitive difficulties can be attributed to the phenomenon of cognitive overload, in which cognitive processing capacity (i.e. memory and attention), which is limited in humans, clashes with processing requirements.

Interpreting-related cognitive overloads mainly manifest themselves in three aspects. Firstly, there is too much information. Under time pressure, the interpreter is confronted with constant inflows of information and is expected to give ‘online,’ instant feedback during the interpretation. He/she has to bear great mental and psychological pressure, especially when he/she has problems with the previous flow of utterances. Secondly, there are too many tasks at different stages of the multi-tasked interpreting process in which the tasks of listening, note-taking and speaking overlap. This may mean that the completion of note-
taking may be at the cost of comprehension of the speaker and reproduction of the target
discourse, or that the comprehension of the speaker may lead to the degradation of note-
taking and reproduction of the target discourse. Thirdly, cognitive overload may come about
through too many distractions. In the context of interpreting, distractions may pop up at any
time due to physical requirements (e.g. fatigue, need to go to the restroom), psychological
instability (e.g. anxiety), or poor working conditions (e.g. noise, equipment breakdowns). If
the challenges caused by cognitive overload cannot be solved promptly, the interpreter can
become increasingly anxious and depressed, which can strongly affect the quality of his/her
interpreting performance.

Therefore, with the assumption that a cognitive mechanism is needed to ease the
interpreter's tensions and enhance his/her performance, we will build up a working model
for consecutive interpreting from a cognitive perspective. This conceptual mapping model
will be used to explore how to optimize the interpreter's attention resources when he/she
faces challenges from cognitive overload.

4 The Conceptual Mapping Model

Within the framework of Relevance Theory (Sperber and Wilson 1986), we assume that
consecutive interpreters and student interpreters will benefit from systematic and efficient
control of cognitive efforts. A cognitive approach with the help of the discourse analytic
method will be adopted to work out a conceptual mapping model, which covers two main
issues: (1) the main components of this model, and (2) the operations of this model.

4.1 Revisiting Relevance Theory

Human communication is characterized by its contextual complexity. That is, given that the
sender and the receiver do not always share enough mutual knowledge, their own
presumptions, assumptions, and expectations appear to be "asymmetrical." Sperber and
Wilson (1986), in their Relevance Theory, postulate an "ostensive-inferential process" to
map the process of human communication. From a cognitive perspective, the information
processing in human communication involves the use of cognitive abilities in the process of
communication between the communicator and the audience (perceptual abilities, memory and inferential abilities) in "the choice of a code and a context" (ibid.: 43): "The communicator produces a stimulus which makes it mutually manifest to communicator and audience that the communicator intends, by means of this stimulus, to make manifest or more manifest to the audience a set of assumptions."

Within this process, the communicator’s ostensive behaviors provide information of two orders. First-order information contains "Explicatures," i.e. "explicitly communicated assumptions" (1986: 182). Explicatures show the communicator's "informative intention" which is to "inform the audience of something" (ibid.: 29). Second-order information contains "implicatures," i.e. "implicitly communicative intention," which is to "inform the audience of one's informative intention" (ibid.: 29). The relationships between these two layers of information "are not too distinct [...] but [are] a continuum of cases of ostension" (ibid.: 53). However, it is assumed that an understanding of second-order information may need more processing effort because such communicative intention is realized in a more indirect manner.

The information offered through the communicator's ostensive behaviors serves not only as the "evidence of one's thoughts" but also as a stimulus for inferential behaviors in the audience (ibid.: 50). The efficiency of these inferential efforts is determined by how relevant the assumptions made by the audience are to those of the communicator's intentionality. Sperber and Wilson (1986: 43) suggest that successful communication "requires some degree of co-ordination between communicator and audience on the choice of a code and a context." The purpose of the communicator's ostensive behaviors is to "attract the audience's attention" while the audience's inferential behaviors are aimed at judging the degree of relevance between their generated assumptions and the communicator's expectations; "[o]nce the communicator's informative intention is recognized, ostensive stimuli arouses definite expectations of relevance, of relevance available" (ibid.: 155).

This ostensive-inferential process involves the use of cognitive abilities (perceptual abilities, memory and inferential abilities). The Principle of Relevance applies. Sperber and Wilson (1986: 49) claim that "all human beings automatically aim at the most efficient information..."
processing possible." Furthermore (ibid.: 160) they propose a notion of 'optimal relevance,' which is defined as a realization of maximum contextual effect with minimum cognitive or processing effort.

The significance of Relevance Theory (RT) is that, firstly, it makes a plausible account of the dynamic nature of human communication. The individual differences among communicator and audience may cause the complexity of contexts that are established "online" rather than "a priori" (Alves and Gonçalves 2003: 6). Secondly, it establishes the cause-effect framework of cognitive efforts, which helps to "predict communication problems when the audience lacks ready access to certain pieces of information which are needed for consistency with the principle of relevance" (Gutt 2000a: 164). Thirdly, it advocates the economical use of cognitive efforts to achieve the best communicative effect. This offers an important inspiration to solve the conflicts between limited cognitive processing capacity and cognitive overload in the interpreting process.

The literature review has shown a fruitful application of RT in Translation Studies (see Gutt 2000b) in which Gutt (ibid.: 23) comments that RT "provides a natural basis for an empirical account of evaluation and decision-making" in human translation. In Interpreting Studies, Chernov (2004: xxvi) finds RT "to be highly relevant" to his model of message probability anticipation in simultaneous interpreting, because interpretation as an act of communication has to deal with the situation in which "only one target option should be selected, quickly and with justified confidence" (Pym 2003: 11). However, the application of RT in the context of consecutive interpreting is still very rare.

This study is aimed at establishing a working model for optimizing the cognitive effort needed to achieve better communicative effects in the process of consecutive interpreting. The conceptual mapping model will encourage practitioners and student interpreters to understand the cognitive nature of the interpreting process, (1) knowing what they are searching for from the constant in-flow of information, and (2) knowing how to negotiate between competing behavioral tasks.
4.2 Components

4.2.1 Cognitive Abilities vs. Language-Related Interpreting Skills

The literature has shown that various approaches have been employed to model the interpreting process. Among them, an activity-based approach is based merely on the interpreting experiences of practitioners. Herbert (1952: 9) simply breaks down the working procedure of interpreting into three distinct parts: (a) understanding; (b) conversion; and (c) delivery. The disadvantage of this approach is that it lacks theoretical support, because the aim of the author is simply to introduce some down-to-earth interpreting techniques that he has accumulated from his first-hand experiences, as well as from his intuition. Another approach is a cognitive-behavioral one. Gile (1995) structures the two-staged consecutive interpreting process as a combination of behavioral tasks (that involve listening and note-taking for comprehension, note-reading and speaking for production) and cognitive tasks (that involve speech-analysis ability, information storage ability, information retrieval ability, note-analysis ability and production ability). Gile has given a comprehensive account of the interpreting process. However, from a pedagogical perspective, there still exists the problem of the gap between theory and practice, because without appropriate instruction, the mixed use of behavioral tasks and cognitive tasks may misguide student interpreters' attention to focus instead on the practice of listening, note-taking and speaking skills. Consequently, interpreting training may turn into drilling these language-related interpreting skills without giving much attention to the role of cognitive abilities. Moreover, Gile's account of the consecutive interpreting process does not seem to provide a qualitative tool which may enable both the trainers and the student interpreters to enhance their performance in terms of their processes and production.

Attention to language-related interpreting skills partly matches those information processing models which involve employing all available linguistic, encyclopedic and situational knowledge to process a multi-propositional text or discourse-level input (Gerver 1976). A body of literature on consecutive interpreting has revealed the major concern in the analysis of those language-related interpreting skills, which are the effect of directionality on note-
taking skills (Dam 2004), the link between note-taking and listening (Andres 2002), and public speaking skills in the target language (Lorena Bottan 2000) (cf Pöchhacker 2004:184). Many strategies have been proposed to improve interpreting quality (Izquierdo and Borillo 2000). For example, in the production effort, an interpreter can use simple syntactic structures and words when interpreting into their B language (Gile 1995: 187).

However, we argue that priority should be given to strengthening cognitive abilities rather than to drilling those language-related interpreting skills, though they are also of great importance. The main reason is that interpreting is more than a matter of "transcoding." It involves deviation from language form to focusing on "the speech act in its particular circumstances and much broader context" (Seleskovitch 1975: 125). The overemphasis on language-related interpreting skills may bring about misassumption of the goals of interpreting training, such as the learning of more vocabulary (especially technical) in the B language, and the drilling of language-related skills (listening, note-taking and speaking). Gutt (2000a: 169-170) argues that successful communication relies on "not straightforward structural or text-linguistic comparisons," but "communicative clues" which can facilitate the audience's inferential processes. Therefore, we assume that recognition of and training in the cognitive abilities that are used to process these communicative clues should be at the core of practice courses in interpreting.

4.2.2 Main Concepts vs. Minor Concepts

During the interpreting process, what is the interpreter expected to look for when confronted with a constant inflow of information from the source discourse? The first thing the interpreter needs to be aware of is meaning, meaning, meaning. Jones (2002: 11) emphasizes meaning over words in the interpreting process, as follows:

To express ideas clearly and effectively, you must first have them clear in your own mind. It follows that if you wish to re-express someone else's ideas without having the possibility of repeating them word for word—which is the case for the interpreter—then you must make a clear, structured analysis of them. And to make that analysis you have to understand the individual ideas that are the basic building blocks of a speaker's line of reasoning.
From a cognitive point of view, the essence of an interpreting task is to avoid the binding of words, phrases, and sentences, and (for effective communication) to convey the meanings and the messages contained in the original speech (Čeňková 1998: 168). To fulfill these purposes, the interpreter needs to: first, "listen, concentrate and analyze" to identify and/or infer "the speech in blocks" by means of "following a logical argument," and then to "reconstitute it by retaining the essentials of the argument in consecutive renditions" (Heynold 1994: 11-15).

To give a clear account of the 'essentials' of discourse, we use the notion of 'concept' as the basic analytic unit for information processing, since Nida (2001: 104) points out that "concepts are the units that form the basis for finding equivalent expressions in the receptor language." Moreover, the AIIC advocates the role of concepts in conference interpreting: "A conference interpreter [...] makes [bi-lingual or multi-lingual] communication possible [...] by comprehending the concepts of speakers' messages and conveying them orally in another language [...]" (AIIC Bulletin 22/3, 1994: 19, cited in Vuorikoski 2002: 21).

Our current views on the concept of 'concept' are these:

• Concepts are free from being bound to linguistic expressions because, as Falbo (2002: 120) points out, the equivalence between the source discourse and target discourse can hardly be measured from a linguistic point of view (e.g. "one or more words" in the target discourse "could correspond to a single word" in the source discourse);

• Concept is different from information. It serves as a generic unit which covers as much relevant information as possible.

• The overall hierarchical structure of concepts is expected to reflect the organizational pattern of the information contained in the source discourse and reproduce it into the target discourse. Moreover, this overall structure of concepts should not be affected by internal constraints (individual differences in cognitive abilities) and/or external constraints (in the working situation, e.g. time pressure). Otherwise, the quality of comprehension and reproduction will be damaged.
According to the above-mentioned internal and external restrictions, the relationships between the conceptual category and the amount of information these categories contain may vary. Individual interpreters differ in their perceptions. Consequently, they use their own judgment to decide what information should be covered by a specific concept. It is probable that under time pressure, interpreters with weak cognitive abilities will place certain amounts of information within inappropriate conceptual categories.

Disparity at the local level between concepts and the information they contain is allowed if it does not affect the overall hierarchical structure of concepts.

We further break down the notion of 'concept' into two groups: main concepts and minor concepts. Here, within the framework of RT, minor concepts deal with the explicatures of information, which are informative, while main concepts handle implicatures of information, which are intentional. In the interpreting process, the acquisition of minor concepts stimulates inference of main concepts. The interactions among main concepts and minor concepts at local and global levels within the source discourse and target discourse finally develop into a hierarchical cognitive structure.

### 4.3 Three Working Strategies

#### 4.3.1 The Attention Strategy

The attention strategy is applied to the comprehension stage of consecutive interpreting. To maximize the interpreter's attentional resources, priority should be given to (1) concepts rather than behavioral efforts, (2) main concepts rather than minor concepts, and (3) the linkage among main concepts rather than that between main concepts and minor concepts.

The significance of prioritizing concepts over behavioral efforts is that it helps us to revisit the role of note-taking and note-reading in the process of consecutive interpreting.

Traditionally, note-taking has been considered an integral part in the consecutive interpreting performance (Nolan 2005). We agree with the importance of note-taking in classic consecutive interpreting, in which larger chunks of utterances are involved in a long
discourse. However, based on our conceptual mapping model, we suggest that note-taking is not everything. This behavioral effort should give way to cognitive efforts when facing time pressure. In other words, an interpreter’s attention should be focused on recognizing conceptual linkages in the information involved so that he/she does not feel at a loss when considering when and what he/she needs to jot down while listening. Moreover, a focus on the conceptual aspect of information may lead to differentiation between notes on paper and notes in the mind. This means that under time pressure, the interpreter could memorize some of the main concepts and/or their conceptual linkages in his/her mind. Consequently, the cognitive load caused by the behavioral effort of note-taking could be reduced, which allows attentional resources to be focused on more important areas.

4.3.2 The Layering Strategy

The layering strategy is applied along with the attention strategy during the comprehension stage, when the interpreter is expected to conduct ‘online,’ real-time analysis of the inflow of information. The main feature of this strategy is that main concepts are set at the primary level while minor concepts are at the secondary level. Minor concepts are subordinate to main concepts, while the interrelationships of main concepts finally develop into a hierarchy of cognitive structures that reflects the speaker's intention.

With the guidance of optimal relevance, it is worth noting that minor concepts may be sacrificed when more attentional resources are given to identifying main concepts and their conceptual linkages. The reason is that "the appropriate distribution of effort is related to the risk degrees of options" (Pym 2003: 11). Given that "messages are of unequal importance for an attainment of successful communication," Pym (2003: 10.5) further proposes that "most communicative efforts should be invested in high-risk messages [that are more important] in terms of production, reception and mediation." Furthermore, the reduction of efforts on low-risk messages [that are less important] allows more efforts on high-risk messages (ibid.: 10.8).

As a matter of fact, the layering strategy starts right before the actual interpreting performance. Based on his/her schemata, the interpreter uses his/her anticipation ability to
set up a temporary thematic structure related to the interpreting topic. During the actual interpreting process, the interpreter is assumed to put acquired information into the pre-categorized conceptual levels. The closer the interpreter's cognitive structure with its presupposed assumptions is to that in the speaker's speech, the more confident the interpreter feels during interpreting. This can enhance the interpreter's feeling of control of the working context and help them to acquire a deeper understanding of the source discourse.

4.3.3 The Clarity Strategy

The clarity strategy is applied to the speech production stage of consecutive interpreting. Since "a speaker's meaning is best expressed in his or her native tongue but is best understood in the languages of the listeners" (Nolan 2005: 2), the clarity strategy emphasizes the linguistic-reproductive ability to "reword in a clear and linguistically acceptable target-language text [discourse] all the relevant information it contains" (Gile 1995: 85).

It stresses using effective linguistic devices to reflect in the target discourse the cognitive structure of the source discourse. By 'effective linguistic devices,' we advocate the principle of being audience-oriented. Those linguistic devices are effective if they can facilitate the audience's comprehension of the speaker's intentions. Inefficient linguistic devices are those that increase the audience's cognitive load by producing sentences with highly condensed information, and by failing to use cohesive devices to reveal the inner connections of concepts at local and global levels.

5 Conclusion

This paper has focused on theoretical considerations of how to resolve the cognitive overloads that arise in consecutive interpreting. Within the framework of Relevance Theory (Sperber and Wilson 1986), a cognitive approach has been adopted to build a conceptual mapping model, which (1) differentiates cognitive abilities from language-related interpreting skills, (2) explains a hierarchy of cognitive constructs (known as 'main concepts'
and 'minor concepts'), and (3) suggests three working strategies to optimize the interpreter's limited cognitive processing resources. Consecutive interpreters are encouraged to allocate their attentional resources to the processing of information by means of filtering, rearranging and reproducing.

In order to bridge the gap between theory and practice in terms of optimizing the interpreter's limited cognitive resources, further efforts will be made to design a qualitative pedagogical tool which would enable both trainers and student interpreters to monitor the quality of their performance, identify the causes of cognitive problems in their interpreting, and thus control (self-regulate) the student interpreters' learning processes.

6 References


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