An Embedded Cognitive Model Study on Anxiety in Continuous Interpretation

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Abstract: This article conducts an embedded cognitive study on consecutive interpretation anxiety based on anxiety theory and neuropsycholinguistics, and proposes an embedded cognitive model for consecutive interpretation anxiety. The design concept and components of this model (perceptual anxiety, thinking coding anxiety, thinking decoding anxiety, decision anxiety, conversion anxiety, and memory anxiety) are different from previous studies on interpreting cognitive processes, and it is a bold interdisciplinary attempt.

Keywords: Consecutive interpretation; Embedded research; Interpretation Anxiety Model

1. Introduction

For a long time, translation research has mostly focused on the description, interpretation, and debate of translated products or products, while the study of the process of translation (i.e. the dynamic psychological process of translation) is still in the stage of introducing and introducing foreign achievements, and the study of the psychological process of interpretation is no exception. The development of process research in the past 40 years has undoubtedly become a mature research field in translation studies, and the research on translation cognitive process and interpreting cognitive process has been in a leading position in the Chinese translation industry. In interpreting activities, interpreters are often required to complete a series of tasks in a very short period of time, including listening and understanding of the source language, information processing, extraction, coding, conversion, etc. This indicates that interpreting activities are undoubtedly a huge cognitive task. With the continuous deepening of interpreting research, interpreting is no longer an independent discipline. Disciplines such as cognitive psychology, cognitive linguistics, and neurolinguistics are introduced into interpreting research to conduct interdisciplinary research and pay more attention to the interpreting process, such as the focus on psychological activities, including perception formation, attention allocation, processing of memory information, anxiety generation, and problem-solving. Efforts are made to conduct scientific cognitive research on it. This article will take interpreting anxiety as the starting point, embedding cognitive science, emotional research, foreign language learning, and interpreting process into the study of interpreting anxiety.

2. Theoretical basis for consecutive interpretation anxiety

Krashen proposed the Input Hypothesis Theory in 1985, which includes the Emotional Filtering Hypothesis, which suggests that emotions filter language input information and affect information reception. These emotional factors include motivation, attitude, self-confidence, tension and anxiety, etc. As an activity of information input and output, consecutive interpretation involves various aspects such as speech perception, vocabulary recognition, syntax and meaning analysis. During the understanding process, translators are influenced by emotional factors, especially anxiety, which in turn affects information reception. Spielberg believed that state anxiety is a temporary emotional state that an individual experiences in a specific situation, with tension varying over time and accompanied by activation of the autonomic nervous system. In the process of interpreting, factors such as topic, environment, and participants can cause tension and anxiety among interpreters. Therefore, interpreting is not only a language conversion, but also a psychological adjustment. Sullivan believes that anxiety stems from the threat of social stimuli to an individual's intrinsic value, and is a manifestation of interpersonal relationship fragmentation. During the process of interpreting output, translators may experience anxiety due to concerns about the effectiveness of the target language or negative feedback, and the hypothetical division of interpersonal relationships can trigger anxiety in interpreting.

3. An embedded cognitive model for consecutive interpretation anxiety

Liu Shaolong re-examines the internal process of continuous interpretation from an interdisciplinary perspective, and constructs a neuropsycholinguistic model of continuous interpretation through analysis and reference of relevant theories in neurolinguistics, psycholinguistics, and domestic and foreign interpretation research. The main content, operational processes, and neuropsychological mechanisms of this model reveal the complex neural materiality and psychological reality of continuous interpretation.

According to the neuropsychological process contour map of continuous interpretation, interpretation activities mainly involve speech comprehension and speech generation, intermediary systems, and memory systems. Based on this process, combined with cognitive research on anxiety emotions, an embedded cognitive model of continuous interpretation anxiety composed of perceptual anxiety, thinking anxiety, decision anxiety, conversion anxiety, and memory anxiety can be derived.

3.1 Sensory Anxiety

Perceived anxiety is the first part of consecutive interpretation anxiety. Perception is divided into two parts: sensation and knowledge. Sensation refers to the reflection of individual attributes of objective things that directly affect sensory organs by the human brain. Perception is the overall reflection of the human brain on the various attributes, parts, and interrelationships of objective things that directly

affect sensory organs, that is, the process of synthesizing information. In consecutive interpretation, the translator first needs to receive acoustic signals of language, perform speech resolution, phoneme recognition, and vocabulary recognition, and perceive the sound (acoustic signals of information) and form (textual representation of information) of speech information. For interpreters, listening ability is crucial in this stage. The information heard by the interpreter is the key and foundation for initiating subsequent consecutive interpretation. If the information received in this stage fails or is incomplete, it will cause deviations in vocabulary recognition and subsequent perceptual errors.

In addition to the perception of voice information, interpreters often perceive nonverbal voice signals at the interpretation activity site, and these uncontrollable factors can also have a certain impact on the interpreter's interpretation, which is also the perceptual anxiety of consecutive interpretation.

3.2 Thinking - Decoding Anxiety

Thinking is the process of analyzing, synthesizing, comparing, abstracting, and summarizing information input from the outside world based on memory. After processing the perception of speech signals, the brain begins to decode semantics, which refers to the second part of consecutive interpretation, syntactic analysis, semantic analysis, and pragmatic inference in speech comprehension mechanisms. The decoding of speech information can also be understood as the construction of the meaning of speech information. In bottom-up processing, the brain conducts syntactic analysis on the input sentence, increasing its representation as the sentence unfolds. During this process, a temporary syntactic structure is formed, and subsequent components are predicted. As information accumulates, correct analysis is formed. Based on syntactic analysis, the brain can obtain the surface meaning of the speech information. If the true meaning of the information differs from the surface meaning, the brain needs to mobilize background knowledge and contextual information to perform pragmatic derivation on the speech information, ultimately achieving the goal of speech comprehension. In actual interpreting activities, due to the unreasonable allocation of energy, interpreters mainly focus their attention on the surface meaning construction of phonetic information, neglecting pragmatic derivation. Therefore, the information received by interpreters becomes biased information that does not conform to the context. When this information contradicts the context or the thematic context, the interpreter's self doubt becomes decoding anxiety in the thinking process.

3.3 Thinking - Encoding Anxiety

Encoding is actually the inverse derivation process of decoding. To generate speech information and generate acoustic signals, the first step is to encode the information. The encoding of information covers semantic traces, syntactic synthesis, and lexical synthesis in the process of consecutive interpretation. After language comprehension, based on the meaning of phonetic information, the brain forms a preliminary fuzzy semantic system or quasi linguistic features, but only stays in the initial stage. By endowing these semantic syntactic structures with basic sentence forms, and then selecting appropriate vocabulary to fill in the sentence structure, the entire process of information encoding is completed. During this process, although syntactic synthesis and vocabulary synthesis are linear processing, due to the short processing time and large task volume of the actual brain, syntactic synthesis and vocabulary synthesis can also be regarded as parallel processing. At the same time, the ambiguity of semantic initial traces can lead to the translator's lack of confidence and self doubt, resulting in coding anxiety.

3.4 Decision anxiety

Decision making is a complex process of thinking and operation, which involves information collection, processing, and ultimately making judgments and conclusions. In consecutive interpretation, decision-making involves two stages in the speech generation mechanism: internal language and speech generation. Internal language is actually the inevitable result of syntactic and lexical synthesis in the previous stage, leading translators to form psychological language in their minds, which is the process of obtaining the final translation after processing phonetic information. Speech generation means that the brain mobilizes its speech function to transmit and output the psychological language of the interpreter, becoming the final acoustic signal that can be heard and the speech information that can be understood by people. This stage marks the end of this turn, and the translator may hesitate in the final decision due to concerns about incomplete information encoding, or self criticize and question their own decision after production. This decision-making anxiety can lead to non linguistic phenomena in the translator's speech production, such as frequent changes, slip of the tongue, and repetition.

3.5 Conversion Anxiety

Conversion refers to the directional translation between the source language and the target language in consecutive interpretation. After receiving the source language information, the recognition, perception, and decoding of the interpreter's speech information mainly rely on the source language, with the target language as a supplement. In the process of speech generation, the brain mainly processes the target language, with the source language as a supplement. Therefore, there must be a major shift in psychological language between speech comprehension and speech generation. For translators, the coexistence, transformation, and mutual influence of two psychological languages in their minds can lead to anxiety about language conversion. In addition, during the psychological language transition process after the output of the target language, i.e. before starting the next round of translation tasks, the translator will also conduct self-evaluation of the newly produced target language or begin to generate virtual hypothetical evaluations from the audience, speakers, etc. This worry and self-evaluation will exacerbate conversion anxiety and affect the translation of the next round.

3.6 Memory anxiety

Memory is the retention and reproduction of past experiences by the human brain, as well as the deposition of sensations. In the process of consecutive interpretation, memory retention not only refers to the retention of the sound, form, and meaning of the speech information,

but also includes various knowledge previously stored in the brain. The reproduction of memory requires some external stimuli, namely the input of external language materials, as well as other information decoded during the information processing process. Memory anxiety actually refers to the translator's concern about maintaining instantaneous information and ineffective stimulation of permanent knowledge information.

4. Summary

Continuous interpretation anxiety runs through the entire process of continuous interpretation activities and plays a more or less influential role. By analyzing the neuropsychological process of consecutive interpreting, it is not difficult to find that theoretically, anxiety exists in every stage and affects every psychological process of interpreting. The anxiety phenomenon in consecutive interpreting should not be underestimated.

Anxiety in consecutive interpretation can be divided into six categories: perceptual anxiety, thinking decoding anxiety, thinking coding anxiety, decision anxiety, conversion anxiety, and memory anxiety. Perceived anxiety and decoding anxiety both occur during the process of language comprehension, but there are differences: the former is initial anxiety, related to the first step of the brain receiving acoustic signals, and is usually influenced by psychological factors; The latter is processing anxiety, which involves the brain mobilizing what the translator has learned and integrating speech information. Perceived anxiety affects the accuracy of sensory perception and can form decoding anxiety by affecting the information decoding process, and the unsmooth decoding process can exacerbate decoding anxiety. Thinking coding anxiety and decision anxiety both occur during the process of speech generation. Coding anxiety is the foundation of decision anxiety, and decision anxiety is the result of coding anxiety. Conversion anxiety and memory anxiety run through the entire process of consecutive interpreting, connecting other types of anxiety into a complete interpreting cycle. In addition, anxiety in consecutive interpretation is both a result phenomenon and a influencing factor, and there is an interaction between each type of anxiety factor.

This study is based on the neuropsychological process of continuous interpretation and speculates on possible anxiety phenomena in the cognitive process of interpretation. However, due to differences in the professional level and psychological qualities of interpreters, the level of anxiety in actual interpretation varies. Therefore, the study of the manifestation patterns of various anxieties in consecutive interpretation, their correlation with interpretation quality, strategies for anxiety resolution, psychotherapy, and training methods are all key areas of cognitive research on consecutive interpretation anxiety. Through experimental research in psychology, we will continue to explore various types of interpreting anxiety and provide effective strategies for interpreting training and teaching.

Reference:

[1] Zhifeng Kang, Xiaqing Li. Cognitive Interpreting: A Multimodal Embedded Study [J] Shanghai Translation, 2021, (05): 66-71.

[2] Defeng Li. An Overview of the Evolution and Methods of Cognitive Process Research in Translation [J]. Chinese Foreign Languages, 2017,14 (04): 1+11-13.

[3] Shaolong Liu, Weihe Zhong. Neuropsycholinguistic research on interpretation: construction of a continuous interpretation "process" model [J]. Foreign Languages (Journal of Shanghai Foreign Studies University), 2008 (04): 86-91.

[4] Shaolong Liu. A Cognitive Psychological Study on Bilingual Translation: Reflection and Revision of the "Translation Process Model" [J]. Chinese Translation, 2007,28 (01): 11-16+95.

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