A Study on the Development of Cognitive-based MTI Translation Competence

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Abstract: *This paper is mainly concerned with the implications of cognitive linguistics for translation teaching, with an emphasis on the embodied cognition paradigm and social constructivist views of learning. Cognitive linguistics sheds new light on translation teaching by offering an embodied account for the cognitive trajectory of skill acquisition and translation expertise, which becomes a theoretical support for the embodied cognitive view of translation teaching. Having expounded the philosophy and pedagogy, and applying them into teaching design, this paper puts forward a cognitive task-driven teaching model, which puts emphasis on the learners' cognitive development in the process of preparation, creation, reflection and discussion in an organic instructional system seamlessly connecting instruction, teamwork, and feedback. It is hoped that the study would provide inspiration not only for furthering research on translation education but also for planning more effective teaching methods.*

Keywords: cognitive linguistics, translation teaching, embodied cognition, constructivist views

1. Introduction

The research on cognitive translation began in the mid to late 20th century. At the beginning of the 21st century, R. M. Martin[1] proposed the term "cognitive translation studies", which gained significant attention. Derived from cognitive linguistics theory, cognitive translation studies advocate the integration of theoretical principles and research methods from cognitive science and cognitive linguistics with translation studies. The new cognitive paradigm aims to delve deeply into the mental processes and operational mechanisms of translation, injecting new vitality into the theoretical development and applied research of translation studies. "Since the end of the last century, three emerging cognitive research paradigms of translation－relevance theory, cognitive translation studies, and embodied translation studies－have converged, beginning to shape the way of thinking about translation cognition and revealing the operational laws of the translation process[2]." Researchers are increasingly paying attention to the application of cognitive linguistics theory in translation studies. They also begin to integrate cognitive linguistics with translation, doing descriptive and empirical researches on topics such as translation teaching, translation strategies, and translation processes, as well as the construction of the translation discipline system and the multiple interpretations of translation theory. Cognitive translation studies have rejected the idea that translation is solely based on linguistic transformation, and have instead focused on various cognitive elements involved in the translation process, including the nature, mechanism, and procedure of translation. "Cognitive science can indeed provide valuable research methods and theoretical perspectives for understanding the operation of the translator's brain black box, potentially enabling people to have a more comprehensive understanding of the unique and enigmatic cross-language psychological activity of translation[3]." People are increasingly recognizing that translation activity is not simply a matter of linguistic conversion. "Language transformation in translation is only extrinsic and superficial, while cognitive operation is intrinsic and deep-level[4]."

2. Literature Review

Since the establishment of the Master degree of Translation and Interpreting (MTI) in Chinese universities in 2007, the translation discipline has developed steadily. As a main camp for cultivating translation talents, MTI "has pointed out the direction for the development of translation studies in China and provided an important approach for cultivating high-level professional translators in China"[5]. However, despite the substantial achievements in the development and reform of translation

majors in universities, many related issues in talent cultivation have gradually emerged. Some scholars believe that MTI students have "insufficient language ability; limited knowledge; and a lack of cultural sensitivity. Therefore, it is difficult for graduates to accomplish various practical translation tasks. There is a certain gap between their performance and the society's expectations for highly-skilled translators"[6]. The dissatisfaction with the training of competent translators has triggered thoughts and reflection in the translation and translator training circles. The cultivation mechanism emphasizing theory and neglecting practice, as well as the traditional teaching philosophy and teaching mode emphasizing language comparison, have borne the brunt of widespread criticism. "When considering MTI training and teaching, academic thinking still dominates. The educational philosophy and traditional translation teaching methods and techniques have not been adjusted to keep pace with the new degree programs"[7]. The training of MTI students should innovate the traditional teaching mode, follow the path of students' acquisition of translation skills and take cognitive development characteristics into consideration. Moreover, individual experience and translation practice should be attached great importance to in order to promote the translation ability. The primary task of translator training is to cultivate students' translation ability. "What aspects does translation ability include? How to cultivate the translation ability? These issues have increasingly become the focus of translation teaching and research"[8].

Scholars at home and abroad have conducted research and discussion on the application of cognitive science in translation teaching. Olohan[9] conducted empirical research on the cognitive comprehension ability of translation majors. Tao Youlan and Huang Jin[10] used cognitive schema theory to guide the compilation of translation exercises and proposed that following the cognitive path is the minimum standard for designing translation exercises. Wu Bo[11] believed that the process of translation is a series of cognitive activities in which the translator cognizes the original work and the world reflected by it. The concept based on cognitive linguistics theory has important implications for the cultivation of translation ability. Zhu Lin[12] expounded the embodied cognitive view in translation teaching, advocated a constructivist teaching view oriented by the cognitive process, and constructed a seamless teaching system connecting instruction, internship, and seminars to promote learners' cognitive development in translation. Termina[13] believed that translation should be regarded as a dynamic process that presents a series of extralinguistic, perceptual, and conceptual structures (i.e., conceptual/cognitive equivalence). The key to translation training is to activate learners' conceptual systems composed of cognitive frameworks, cognitive models, cognitive domains, cognitive patterns, and cross-domain mappings. Wang Xiangling and Sha Lu[14] adopted the Community of Inquiry framework theory to reveal that "students who tend to use higher-level cognitive strategies such as monitoring and reasoning to solve translation problems have higher translation quality scores." In a nutshell, it is found that researchers have a common understanding of the shortcomings of traditional translation classroom teaching, in which the teacher-centered error correction teaching model still dominates; teachers impart knowledge and students passively accept it; the form of translation exercises is monotonous; the concepts of teaching translation and translator training are confused, etc. Although some scholars have discussed the importance of cognitive linguistics theory in the cultivation of translation ability and translation teaching practice, their views tend to be heuristic and impressionistic, and the combination of theory and application is not deep enough. Most research failed to combine core theoretical concepts with reform plans and research findings. Therefore, the cultivation of translation ability and the research on translator training from the perspective of cognitive linguistics are still topics worthy of further discussion.

Guided by the cognitive theory, this study delves into the construction of the MTI training model. Drawing on the perspectives of embodied cognitive linguistics and the constructivist teaching, it proposes that the teaching model should shift from a "language training model" to a "cognitive activity construction". Furthermore, specific suggestions are made for the construction of the "cognitive translation ability training" model and the implementation of specific teaching procedures.

3. Embodied cognitive perspective

Translation is a complex process involving the understanding and transmission of meaning. The cognitive view of translation holds that "translation is based on the cognitive foundation of multiple interactions involving the cognitive subject who participates in it against the backdrop of real-life experiences[15]". On the basis of thoroughly understanding the various meanings expressed in the source language text, the reader and translator strives to express them in the target language, focusing on outlining the real world and cognitive world described by the author in the original text. To explore the cognitive-based translation teaching model, we should first start with the embodied

cognitive perspective that emphasizes the experiential and creative nature of the translator.

3.1 Cognitive route of embodied skill acquisition

The research paradigm of contemporary cognitive science has shifted from disembodied cognition to embodied cognition. The embodied perspective argues that the biological structure of the cognitive subject directly influences the way and content of its mental processing. Human understanding of language benefits from the accumulated experience of sensory and motor actions, such as identifying colors and directions. Abstract and emotional concepts, on the other hand, derive from actual embodied experiences. "Embodied experience not only refers to physical and physiological experiences but also to social and cultural experiences perceived through the body and language, which shape and constrain meaningful expressions.[16]" Embodied experience is crucial to translation because it provides individual translators with a fleeting and incidental "reference" to connect the source text with the target text.[17] The cognitive process of translation cannot be separated from the translator's personal physical and mental experiences, socio-cultural environment, as well as their understanding of the source language and mastery of the target language. Based on the theory of embodied cognition, Dreyfus and Dreyfus[18] developed an embodied account for skill acquisition.

Table 1: Five stages of the embodied skill acquisition.

Stages of acquisition	Levels of acquisition
1.Novice	Without experience,most beginners are notoriously slow players, as they attempt to remember all rules and their priorities on the basis of those decomposed and context-free features, like a computer following a program.
2.Advanced beginner	With certain experience actually coping with real situations, the learner bgins to note perspicuous examples of meaningful additional aspects of the situation. Instructional maxims now can refer to these new situational aspects.
3.Competent performer	With more experience, learners thus seek new rules and reasoning processes to decide upon a plan or perspective. They must decide for themselves how to cope well with a vast number of situations differing from each other in subtle, nuanced ways, since no one can prepare for the learner a list of what to do in each possible situation.
4.Proficient performer	As the learner practices his/her skill, events are experienced with involvement; the performer's theory of the skill, as prepared by rules and principles, will thus gradually be replaced by situational discrimination accompanied by associated responses. Proficiency develops if, and only if, experience is assimilated in this atheoretical way, and intuitive behavior replaces reasoned responses.
5.Expert performer	With enough experience in a variety of situations, the expert performer's brain allows an immediate intuitive situational responses that is characteristic of expertise.

As indicated in the Table 1, the learners' ability has been improving during the five stages of acquiring general professional skills from novice to expert and their corresponding cognition also develops with certain characteristics. The five stages of skill acquisition constitute a general cognitive trajectory which is essentially applicable to explaining the cognitive process of translation learners' skill development as well. Under the framework of cognitive linguistics, the growth of translation skills is a process of continuously constructing meaning and reconstructing meaning in new contexts. At the novice stage, translation learners memorize various techniques and rules, and engage in imitation exercises to build up conceptualized scenarios. As translation experience gradually accumulates and different translations are constructed in diverse contexts, learners are able to exercise their creativity and acquire problem-solving abilities such as consciously discovering rules, making correct choices, and making self-decisions, resulting in a spiral development of translation skills. It can be said that the mid three stages from intermediate to proficient are the main processes through which MTI students need to continuously improve their translation skills through on-campus learning and translation practice. Classroom teaching is like a well-designed skills training ground, where various translation phenomena are played out, including translation contexts, task descriptions, interdependence between people and texts, and the relationship between texts and reality/situations. Teachers lead students to understand and experience every step of the translation process, from conscious thinking and imitation to unconscious experiential responses, with the goal of feeling through experience, collecting insights

through feeling, provoking reconsideration of theoretical rules and consciously making adjustments, thereby forming new translation norms and experiences to achieve skill enhancement. The cognitive-psychological path of acquiring professional skills outlined in Table 1 is a cognitive law that MTI educators need to understand and follow in their teaching designs. Since the cognitive psychological development of translation learners exhibits embodied, contextual, and reflective characteristics, the teaching of translation should be organized based on the multiple interactions of language and the cognitive process of meaning construction.

3.2 Situational Construction in Translation Teaching

The cognitive perspective of meaning coincides with constructivism. Lakoff[19], one of the founders of cognitive linguistics, believes that "understanding arises from the interaction and continuous negotiation between the environment and learners. When there are differences in culture, knowledge, values, and assumptions, mutual understanding can only be achieved through the negotiation of meaning." Langacker's[20] cognitive grammar theory points out that "meaning is not an inherent attribute of linguistic expressions, but is acquired through the interpretation of situational concepts in the context, that is, in the actual scenarios of language use." It can be seen that from the perspective of cognitive linguistics, the meaning of language is constructed through the cognitive operations of language users. Constructivism also emphasizes the positive role of situations, the role of social and cultural interaction in cognition, and the dynamic generation process of knowledge. According to Constructivism, people construct or interpret reality based on their own experiences, and different people have various understandings of things due to their unique personal experiences. Knowledge is not acquired through teacher's instruction, but is obtained by learners through meaning construction based on their original experiences, with the help of necessary assistance and social interaction in a certain social and cultural context. "As for training, situated views can be traced back to psychologist Lev Vygotsky's tenet that cognitive structures originate in social interaction."[20] Therefore, the construction of cognitive translation teaching should focus on both the positive role of the learners' cognitive process based on embodied experience in meaning construction and in the linguistic and cultural environments. As different aspects of a process, both need to be effectively unified in the training of MTI students.

4. Exploring Cognitive-based MTI Training Model

Traditional translation teaching mainly focuses on the comparison of English and Chinese language structures combined with the analysis of translation skills. Although the knowledge is undoubtedly beneficial to students in translation, over-reliance on language training models and confinement to evaluating the pros and cons of language transformation can easily mislead students to believe that translation is simply a simplified and mechanized comparison and application of language systems. This makes it difficult for them to break free from the constraints of the source language and miss the deeper semantic meanings. The corrective teaching model of "skill explanation -> student practice -> teacher correction and comment -> display of reference translation" lacks the dynamism and interactivity of meaning construction. Translation, with its cross-cultural communication attribute, is a complex dynamic process that, besides being constrained by linguistic factors, also relies on the basic cognition of speech context, communication purposes, and human embodied experience. Under the framework of cognitive meaning construction, the research focus of cognitive MTI translation teaching model lies in how to reflect social interactivity in organizing translation activities and how to enable students to fully utilize shared cultural, contextual, and cognitive resources for dynamic negotiation of meaning through effective practice and scientific guidance based on the comparison of two linguistic and cultural systems. Tan Yesheng[21] first compared the similarities and differences between the traditional translation teaching and the cognitive translation teaching from five aspects: teaching objectives, teaching models, teaching content and means, teaching methods, and teaching evaluation, and then proposed corresponding countermeasures. Zhu Lin[12] proposed a teaching methodology, which puts emphasis on the learner's cognitive development in the process of participation, reflection, transformation, and creation in an organic instructional system seamlessly connecting instruction, internship, and seminars. Wang Xiangling and Sha Lu[14] studied the construction, implementation, and evaluation of the "inquiry community model" in translation teaching. The efforts made by the above scholars have provided useful inspiration for the exploration of MTI training and laid a foundation for building up a systematic, integrated, and standardized translation training model.

Based on the embodied cognition theory and the constructivist learning method of "learning by

doing and doing by learning",the "cognition-based task-driven teaching model" integrates project-based instruction, task-driven activities, and case-based translation practice to form a closed-loop teaching design connecting teaching, learning, and evaluation in four main steps, namely course design, pre-translation preparation, task implementation, and post-translation reflection (see Figure 1).
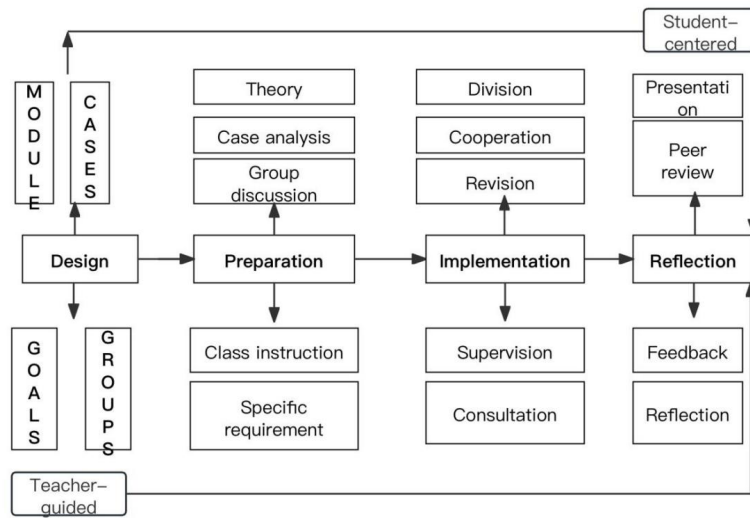

Figure 1: The Cognition-Based Task-Driven Teaching Model

(1) Course Design

Teachers design the course plan based on students' current translation abilities and training objectives. The task-driven teaching model focuses on case-based instruction and emphasizes process-oriented learning. In the teaching preparation stage, to ensure a balanced level of learning among group members, teachers first guide students to form heterogeneous groups. Through pre-class diagnostic assessments such as translation ability assessments and self-evaluation scales for translation skills, students with different specialty background, translation competency, and strengths in different translation themes are grouped together. Secondly, under the joint discussion between teachers and students, teachers plan the teaching modules, select typical translation cases for illustration, design different types of translation texts, and present spiral and progressive translation tasks in stages, layers, difficulties, and challenges according to specific translation needs. Teachers use specific translation cases in the modules to sift through and select the essential points, elaborate on theories, and naturally integrate theories and principles into the specific content of each lesson, enabling students to draw inference from one instance and apply their existing knowledge in their own translation practice. They make full use of modern information tools and expand their translation horizons through communication and cooperation, deepen their understanding of translation practice, and enhance their ability to solve translation problems.

(2) Pre-translation Preparation

During the preparation stage of translation tasks, teachers provide students with teaching demonstrations and make specific requirements for various translation sub-abilities. Pre-translation preparation includes theoretical learning, case analysis, and group discussions to help students formulate translation plans for specific texts. ①Theoretical learning covers understanding the nature of translation, essential syntactic and semantic strategies in translation, the comprehensive qualities of translators, and knowledge of various themes; ②Case analysis involves understanding the source text, retrieving background information, textual cohesion, translation difficulties and solutions, translation evaluation, and text revision; ③Group discussions focus on typical translation examples and difficulties in the cases, and each group is required to provide feasible solutions. Teachers need to focus on the participation of open discussions in group exchanges, requiring group members to actively discuss, freely speak, and even debate on multiple possible choices, thus achieving the teaching objective of focusing on the translator's cognitive construction ability based on context.

(3) Task Implementation

During the implementation of translation tasks, teachers guide and monitor the execution of tasks

throughout the process, participate in communication and discussion, and provide timely guidance and enlightenment on bottleneck issues. The emphasis is on the division of labor and cooperation within the teaching groups. Each group member rotates to charge each task. The person in charge communicates and coordinates possible issues that may arise throughout the process of initiating, assigning, completing, proofreading, and submitting the translation text, and proposes solutions. Executing translation tasks in groups can particularly enhance mutual assistance and cooperation among students and help students recognize the role and importance of translation teams. Students complete the "meaning construction" of knowledge through "dialogue" and "negotiation." Encouraging the use of different cognitive means to diversify the interpretation of texts. Doubts, debates, reflections, understanding, and joint exploration in cooperation can not only help students recognize the guiding significance of theory in practice but also improve their communication and cooperation skills.

(4) Post-translation Reflection

After students complete the translation task, each group shares their experiences and achievements in the classroom and describes their translation process and gains. Teachers invite other students to provide objective evaluations of the translation based on relevant theoretical knowledge. On this basis, diversified evaluation methods are used for self-evaluation, peer evaluation, and teacher evaluation of the application of translation theory and techniques, the translation process, translation resources and reference tools called upon to solve problems found during the translation process, and etc. Through group presentations and demonstrations, the embodied experience is theorized, and students gain a deeper understanding and appreciation of abstract theories, gradually mastering diverse cognitive translation skills. Teachers can also adjust subsequent teaching by spotting students' bottlenecks and deficiency encountered by each group during the translation process, drawing beneficial feedback to improve further teaching.

5. Summary

The training of MTI students requires theoretical guidance, oriented practice, embodied experience and teachers' guidance. Under the theoretical framework of cognitive linguistics and based on the cognitive process of professional skill acquisition, this study proposes a cognitive task-driven translation teaching model with learners' embodied cognitive experience as the core, including specific teaching steps and teaching suggestions. It emphasizes the significance of the embodied experience of cognitive linguistics for the accumulation of knowledge systems and the cultivation of translation skills. The cognitive construction perspective tells us that translation instruction should consider the cognitive characteristics of learners, follow the cognitive psychological trajectory of translation skill growth, and systematically design the teaching process and each link. On the one hand, the model focuses on the cognitive characteristics of learners' bilingual representation, pays attention to the core of cultural concepts rather than language forms, and emphasizes learners' understanding of translation contexts and their personal cognitive experiences. On the other hand, it combines information technology such as network and multimedia teaching to guide learners to obtain contextual support for cognitive construction of new information and meaning in diverse textual contexts. In theory, a prominent feature of the cognitive translation teaching model is the emphasis on students' embodied cognitive construction. However, due to the abstraction of the theory and individual differences, translation teaching practice may face some practical operational problems, such as the selection of translation cases, project design and group assignment, as well as different methods that should be adopted for students at different stages, with different knowledge backgrounds and translation levels. Future research will focus on the specific teaching practice of this teaching model, and some hypothetical inferences will also be tested and revised in the further teaching practice.

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