Research Article

Cognitive Mechanism of English Translation and its Teaching Strategies

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Abstract

In essence, English translation is a process of cognitive processing, a process of expressing the conceptual information and intentions obtained in the original language, as well as a process of producing or generating the target language. Therefore, this paper expounds the teaching strategies of English translation through the study of the characteristics of cognitive mechanism, hoping to promote the application of the cognitive mechanism and teaching strategies in the process of English translation.

Keywords

English Translation • Cognitive Mechanism • Teaching Strategy

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According to the principle of cognitive theory, namely, "reality - cognition - language", the reality is prior to cognition, cognition is preceded by language, and language is the product of reality and cognition, behind which is the law of human cognition (Lintean, Rus & Azevedo, 2012). On the basis of a thorough understanding of the various meanings expressed in the source language, the translator strives to map them out with the target language. In the translation, the translator should focus on drawing out the reality and the cognitive world that the author wants to describe. Therefore, translation, as a communicative activity, cannot be divorced from human cognition. On the surface, translation is the transformation between two languages, but behind the transformation, it involves a series of complex cognitive activities (Cuevas & Oser, 2002; Cuevas, Fiore & Oser, 2001). Translation, as a practical skill, plays a very important role in students' language learning. Cognitive mechanism is an individual's self-awareness, self-control and self-regulation of his learning activities (Yang, Guo & Yu, 2016). The introduction of cognitive mechanism into English translation teaching practice can help students better learn English translation and enhance students' confidence in translation (Chen, 2010; Moodie & Feryok, 2015). Therefore, this paper expounds the teaching strategies of English translation through the study of the characteristics of cognitive mechanism, and hopes that the discourse can promote the application of the cognitive mechanism and teaching strategies in the process of English translation.

Cognitive theory of English translation

English translation is a cognitive activity, in which the translator, as a bridge between the original writer and the reader, the source culture and the target culture, determines the quality of the translation to a great extent and even the formation of the translation activities (Kirkpatrick, 2016). According to the cognitive theory of English translation, translation is a cognitive activity, and the process of translation is actually a process of thinking and logical analysis of the translator in processing the connotative information of the languages and the words. The human cognitive system is a whole activity with a large number of processing units. There are a large number of connections between neurons, in which exists knowledge. Learning is to establish connection or change the activation mode between connections, based on whicn, a neural network functional model of English translation process is established, as shown in Figure 1.
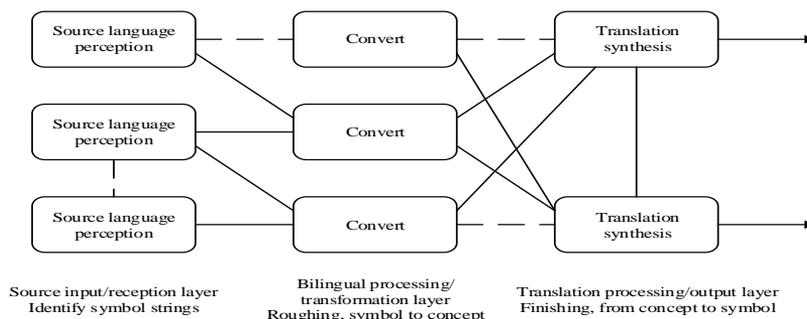

Figure 1. Neural network function model in English translation.

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The teaching foundation of English translation teaching

Thought and theory are the basis and condition for teaching, determining its direction and uniqueness. The development of the translator's thinking and intelligence should be an important orientation in teaching process. The first is to obtain the ability to translate. The composition of translation competence has a directive role in establishing the goal of translation education, and is the premise of teaching mode design. The study of translation ability reveals the essential attributes and main connotations of translation, establishes a concept of skillful translation ability which inherits and develops the study itself and provides theoretical support and basis for the teaching of skillful translation (Flynn, 2007). Translation abilities mentioned by PATCE are shown in Figure 2. The second is to obtain the thinking of translation teaching. The translation view of Cognitive School suggests that translation is a cognitive and reasoning process involving the mechanism of the brain. It is the actual experience of the cognitive subject, and the cognitive activity of translating is a hierarchical decision making by the translator based on his/her knowledge (Shibato & Stapleton, 2007). The last is to obtain the thinking of English translation teaching. The theory of thinking oriented teaching is the understanding of the essence of thinking and its reflection in teaching. One can be thoughtful in a field but be opposite in another. The quality of thinking depends on the object's research field and his/her grasp of the related knowledge. The focus of thinking teaching should be "teaching for understanding". The concept of understanding eliminated the opposition between knowledge and thinking, and affirmed the internal relationship between thinking and knowledge.

Figure 2. PATCE's translation competence model.
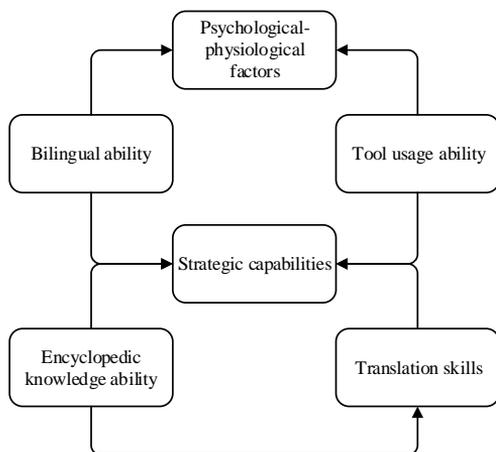
Research on cognitive mechanism of English translation

From a specific point of view, individual chooses certain specific concepts to perceive, and then form the "image world", and finally presents it through language. In the process of English translation, the content of translation presents the image world. According to the content of translation, the translator first analyzes

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vocabulary, sentences and semantics to form a preliminary understanding of this article. On the basis of preliminary understanding, the theme and context of the article are identified and thus form a new cognition about this article. The cognitive process of English translation involves four spaces for the source language, the target language, the translator and the target text. Accordingly, a cognitive model of English translation can be set up as shown in Figure 3.

In this model, source language space and target language space contain rich information of languages and cultures. The translator space is a generic space. According to the memory information and cognitive mode of the brain, the translator judges the information in the source language space and the target language space, and uses the translation methods such as "domestication" and "foreignization" to reduce the distance between the two input spaces as much as possible, thus mapping out the "equivalence" in the source space text in the target language space, and thus the target text space is produced by the translator.
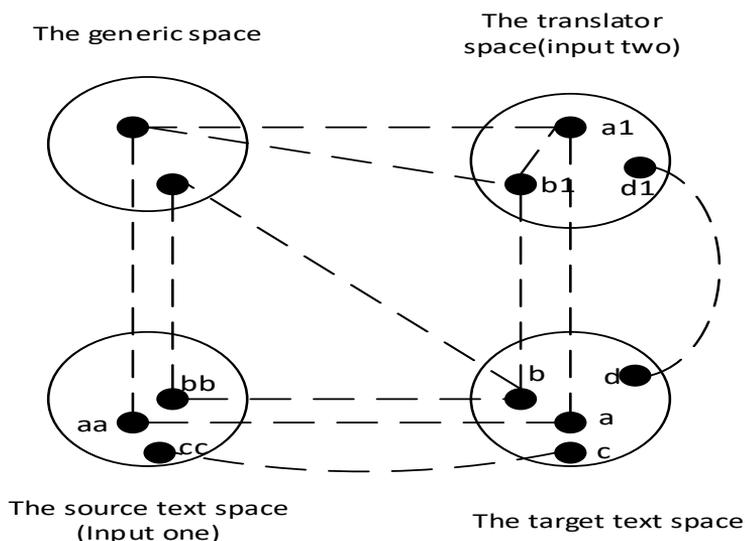
Figure 3. Cognitive model of English translation.

The importance of cognitive concept in English translation

The cognitive view in English translation emphasizes the importance of cognition in translation, and the target text should be able to redraw or reflect the background or the scene in the source text. Only when the translator can understand the original text, can he/she fully express the source language with the target language (Lee & Lee, 2016). Its importance is shown in Table 1.

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Table 1
The Importance of Cognitive Perspective in English Translation

Importances	Concrete embodiment
The cognitive view in English translation sets the direction for translation studies	The concept of cognition needs to clarify the process of the formation of the English concept, linking the process of translation and the formation of concepts. Cognitive translation is based on the whole discourse, combined with translators' personal knowledge, and provides a new perspective for the study of English translation.
The cognitive perspective of English translation can broaden the perspective of translators	The metaphorical way of thinking of cognitive science has broadened the perspective of English translators, and metaphors can make up for the shortcomings of traditional translation theories.
Cognitive perspective of English translation can improve translation ability	English translation can reflect the translator's knowledge and creativity, as well as literacy and expression skills. It is based on the translator's cognitive ability and is influenced by the translator's cognitive language ability. Translators only have good cognitive abilities and the quality of translated translations will be high.

The enlightenment of cognitive mechanism in the process of English translation

The first is to use the three translation principles in cognitive linguistics, which are shown in Table 2.

Table 2
Translation Principles of Cognitive Mechanism in English Translation

Principles	Contents
Compensation	Cognitive theory is used to supplement the translation theory and make up for the deficiency of other translation theories. Using the cognitive approach, the author of the original text and target language readers are bridged by the translator's cognitive ability, and the role of the compensator enters the traditional translation theory. Compensate the traditional linguistic school's theoretical strategy on translation, and modify the translation by adding the translator's cognitive ability.
Subjectivity	The English translation behavior under the category of cognitive mechanism shows the translator's experience in the world, the interaction between the translator and the reader, and the literary quality and creativity of the translator. Cognitive theory is applied to English translation. It emphasizes the initiative of translators. Each process of translation requires the initiative of the translator to participate.
Harmony	The translator is required to deal with the relationship between the author and the reader, and to handle the relationship between the author and the world, he must handle the relationship between the content and the form, and must also translate on the basis of respect for the original and creative.

Secondly, according to the cognitive mechanism of English translation, cognitive linguistics is set up in college translation courses. Cognitive linguistics is not only a course that students majoring in Chinese need to learn, but also should be added to the teaching courses in Colleges and universities. At present, the educational model simply relies on the grammar of the target language, emphasizing that there is no error in the grammatical translation between languages, and the cognitive factors are neglected in translation. This mode of translation training is mainly teacher oriented, and the students are passively accepted, which may affect the enthusiasm and initiative of the students (Kim, 2006). The last is to cultivate the translator's cognitive translation ability. Cognitive linguistics provides a new research perspective for English translation. Metaphor is an insinuation of the object to the target, which is also used by the translator in the process of English translation. The translator

needs to use this method when the real meaning of the words cannot be described, which can help the reader to imagine. Since people's imaginations are different, the function of insinuation is to make the archetype in the translator's mind as close as possible to the prototype in the author's mind.

Examples: Research on the cognitive mechanism of English to Chinese translation in passive sentences

Human cognition has an important influence on constructing the semantic structure and expression form of the language. Understanding and determining the meaning expressed in the passive sentence of the primitives from the cognitive perspective, and reproducing the meaning of the passive sentence in the original language by using the expression that conform to the language habit of the target language, so as to achieve the purpose of interlingual communication. From the cognitive point of view, we can understand the semantics of the original passive sentences and choose the expression that conform to the target language habits to transform the original passive sentences (Veselovska, 2016). Based on this understanding, we believe that the Chinese translation of English passive sentences can take two specific methods as shown in Table 3:

Table 3
Methods of Chinese Translation of English Passive Sentences Under the Role of Cognitive Mechanism

Methods	Explanations	Examples
The translation uses the expression with the grammar mark of the passive sentence as the original	different peoples are based on the same or similar physiological basis and cognitive ability. They have many similar or similar experiences in interacting with objective reality. In this way, there are many similar or similar perceptions of the objective world, which are reflected in language as similar language expressions.	Heat can be converted to energy and energy can be converted to heat.
Translations using expressions without grammar syntax tags	In many cases where passive sentences are used in English, Chinese does not need to use passive sentences to express the same meaning.	I must have been cheated again.

Research on English translation teaching strategies based on cognitive mechanism

In the current English translation teaching mode, teachers provide the original text while the students translate it, and then teachers explain and evaluate. Students have got used to the "error correction" mode. The translation from the source text to the target text is a process in which the translator chooses the right target through comparison of a series of through a series of counterparts. In order to manage this process, the teacher should not only tell students the answer but also should tell students how to make their own judgement in translation process.

Research on teaching strategies of "immersive" classroom English translation

Improving students' potential is the eternal pursuit of teachers. It is also the starting point and the aim of the immersive teaching strategy. The theory of three-dimensional learning cube model points out the direction for students to use "immersive" learning strategies, and also shows the possible path for students in the "immersive"

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classroom English teaching activities. The process of immersion class English translation teaching procedure is shown in Figure 4.

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┌─────────────────────────┐     ┌─────────────────────────┐     ┌─────────────────────────┐
│ English Translation     │     │ The Use of Language in  │     │ Teaching Tasks Driven by│
│ Teaching                │ ──> │ English Translation     │ ──> │ English Translation     │
│ Language Input          │     │ Teaching                │     │ Teaching                │
└─────────────────────────┘     └─────────────────────────┘     └─────────────────────────┘
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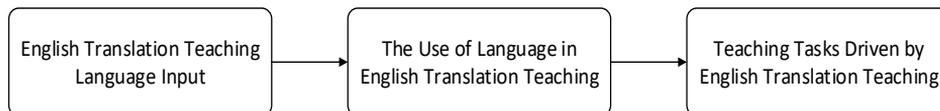
Figure 4. The procedural steps of "immersive" English translation teaching.

English translation course is a highly practical professional course for students majored in English in universities. Its curriculum is divided into English-Chinese translation and Chinese-English translation. Due to the transformation from one language to another, it is necessary for the translator to have a strong bilingual ability. The teaching of English to Chinese translation is a process from the second language to mother tongue. The translator can discuss the problems encountered in the translation. The traditional teaching mode is for students to try to translate first and teachers help students to construct a certain grammatical structure. Finally, students discuss the best translation method together. The path of teaching is from autonomy to practice and interaction.

English translation teaching strategy in network information environment

Under the network information environment, a high-quality teaching environment can be created and thus improve the students' sense of self efficacy and enhance the sense of achievement in the process of English translation. Teachers should develop various network teaching resources, provide students with network learning methods and learning resources, and give differentiated instructions to students so as to improve students' all-round abilities in translation. Specific teaching strategies are shown in the Figure 5:
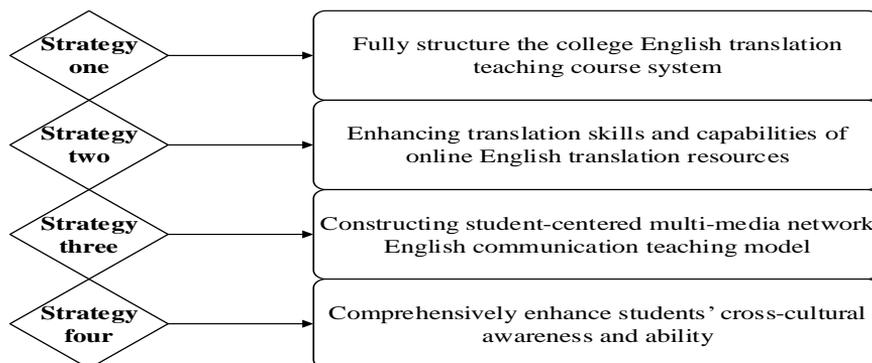
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┌──────────┐      ┌────────────────────────────────────────┐
│ Strategy │      │ Fully structure the college English    │
│   one    │ ───> │ translation teaching course system     │
└──────────┘      └────────────────────────────────────────┘
┌──────────┐      ┌────────────────────────────────────────┐
│ Strategy │      │ Enhancing translation skills and       │
│   two    │ ───> │ capabilities of online English         │
└──────────┘      │ translation resources                  │
                  └────────────────────────────────────────┘
┌──────────┐      ┌────────────────────────────────────────┐
│ Strategy │      │ Constructing student-centered          │
│  three   │ ───> │ multi-media network English            │
└──────────┘      │ communication teaching model           │
                  └────────────────────────────────────────┘
┌──────────┐      ┌────────────────────────────────────────┐
│ Strategy │      │ Comprehensively enhance students'      │
│   four   │ ───> │ cross-cultural awareness and ability   │
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Figure 5. English translation teaching strategies in network information environment.

Other teaching strategies in teaching English translation

Cognitive theory holds that the process of learning is also a process in which learners participate in the construction of knowledge. After the theory of cognition was put forward, three kinds of teaching strategies

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(Kim, 2006), namely, cognitive apprenticeship, anchored teaching and interactive teaching, are gradually formed, which are shown in figure 6.
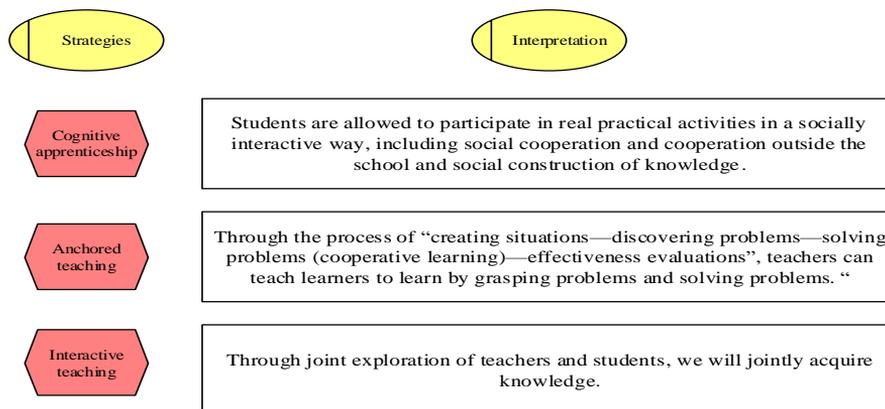

Figure 6. Other teaching strategies in teaching English translation.

Conclusion

Translation process is a very complex cognitive process from the perspective of cognitive psychology. The study of the translation process from the perspective of cognitive theory is to improve the efficiency and level of the cognitive activity of the translator in the process of translation, and to ensure the quality of the translation with a profound understanding of the source text and proper words to express the meaning of the source text. In this way, the target reader can obtain correct information when reading the target text. The role of translation cognitive theory and translator's subjectivity in scientific and technological translation is enormous. In combination with the theory of pedagogy, cognitive science and linguistics, the weaknesses in the teaching of English translation are solved to make the cognitive mechanism and teaching strategies more complementary and thus further optimize the education process. Such research and efforts can maximize the functions of education and teaching, so that to benefit students.

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