

Research Article

Simplification for Efficiency: Development of Schema-Based Chinese-English Interpretation Training Programs

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Abstract

Due to the development of international trade and intercultural communication, interpretation is widely used as a necessary tool in some business occasions. The high demand for Chinese-English interpretation has also increased accordingly in recent years. Interpretation research has been built on the basis of multidisciplinary research, involving linguistics, psychology and sociology. The purpose of this study is to explore the effect of the application of schema theory in teaching C-E interpretation. This study provides some evidence and interpreting examples of application of schema theory in terms of language schemas, formal schemas, and content schemas, as well as a three-stage workshop, namely preparation, training programs, and post-training enhancement, so as to shed light on some practical implications for interpreters, teachers and students. Effectively implementing of schema theory in C-E interpretation not only promotes oral output accuracy through words and information parsing, but also restructure information into an easier-perceived format, to solve the problem of vague oral expression. Therefore it is necessary for interpreters to clarify the content and characteristics of schema theory, receive systematic training, and proactively establish as well as activate as many schemas as possible to improve the efficiency and quality of C-E interpretation.

Keywords

Schema Theory, Chinese to English, Interpretation

1. Introduction

Attributed to increasing trans-cultural communication, interpretation is commonly applied as a necessary tool. Especially, attributed to the rapid economic development in China, the demand for Chinese-English interpretation has been on the increase in recent years. At present, interpretation has been based on multidisciplinary research, involving linguistics, psychology, and sociology. For instance, the schema theory, which is based on cognitive psychology, has been introduced to the studies of interpretation. Some researchers explain the

psychological process of reading based on the theoretical framework of schema, defining the schema as a framework of pre-existing knowledge and experience and suggesting that a well-established schema contributes much to English learners in reading [2, 8]. Also, some researchers make investigation into the contribution of the schema theory to listening teaching programs [4, 17].

The contribution of the schema theory to second language teaching and learning has been widely acknowledged. How-

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ever, the role of the schema theory in interpretation has not been well established. The purpose of this study is to make some investigation into the contribution to efficiency in interpretation by introducing the schema theory to teaching and learning programs. The main body of this report is divided into three parts. First, the relations between the schema theory and interpretation is analyzed. Second, three types of schemas, namely language schemas, formal schemas, and content schemas are introduced and the roles of them in interpretation are discussed. Last, but not the least, the teaching programs based on the schema theory are devised and discussed.

2. Schema and Interpretation

Rumelhart [22] suggests that the schema theory explains how the knowledge is characterized and represented and clarifies the contribution of such characterization and representation to application of knowledge. Rumelhart [23] also suggests that all knowledge can be integrated into different units, which are schemas and can be referred to as some knowledge structures interacting with each other or some lesser units of cognitive abilities. That is, the schema is a certain amount of existing information recorded in human central nervous systems (CNS), based on which humans feel, perceive, consider, recognize, and conclude new information. The power of schema might be reflected in the fact that people are inclined to associate new information with their existing memories and habits for the sake of simplifying the understanding of new information.

Rumelhart [23] points out that neither written nor oral texts actually convey any information, and that texts provide the recipients with guidance which is required for restoration or construction of information based on some existing information recorded in the brain. In other words, cognition is based on schemas, which form in the brain and organize new information to have it understood and memorized. However, people find it difficult to receive some new information when there exists no schema in their brains that associates with the new information. Thus, the interpretation of newly recorded information in the brain is dependent on the existing schemas. From a perspective of Chinese-English interpretation, the influence of schemas lies in reducing the time consumption in restoring or constructing the information based on texts. Just as Piaget [20] suggests, the schema is a group of actions which repeat themselves under similar circumstances. Attributed to the presence of schemas, interpreters are allowed to give real-time reactions to oral texts without considering too much.

In recent years, the schema theory-based teaching methods have been gradually recognized as a potential substitute for the traditional translation-based teaching methods for students. Khodadady is one of the researchers that are most interested in the potential of the schema theory for education of English as second language (ESL). Khodadady and Elahi [10] conducted a comparative study between schema-based and

translation-based instruction by including 60 Persian undergraduate students and randomized them into two homogeneous groups, and the results showed that the schema-based group had significantly better performance than the translation-based group; the instruction was concerning general English, but the students were from a medical school, so the findings might not well reflect the value of the schema theory in teaching all ESL students.

Thus, Khodadady et al. [12] continued to conduct a comparative study between schema-based and translation-based teaching methods by including 90 Persian undergraduate students and randomized them into two homogeneous groups, and the results showed that the schema-based group had significantly superior performance to that of the translation-based group; the teaching methods were concerning general English and the students were majoring in theology, so this study is a strong supplement to the previous one. However, Khodadady and Hesarzadeh [11] conducted a comparative study between schema-based and translation-based teaching methods by including 41 female high school students and divided them into two groups by a schema based test, and the results showed no significant difference in performance between the two groups; although it was an unsuccessful attempt to further prove the superiority of schema-based teaching to the traditional translation-based teaching, it should be pointed out that the sample size was relatively small and the grouping method might be biased.

3. Three Types of Schemas in Chinese-English Interpretation

3.1. Overview

From a perspective of schema, interpretation between languages is actually a dynamic interaction between the oral texts and the pre-existing schemas in the interpreter's brain. According to Carroll [3], schemas are categorized into language schemas, which include basic words and phrases, formal schemas, which include grammars and structures of passages, and content schemas, which include contexts and backgrounds.

3.2. Language Schemas

Language schemas are based on words, phrases, and idioms. When an interpreter is not familiar with these basic elements in the source language of oral texts, he or she might fail to achieve expressiveness, and even faithfulness in interpretation. For example:

Extract. 1

Source text: 最近, 汽油的价格猛涨。

Interpretation 1: Recently, the price of gasoline has been increasing.

Interpretation 2: Recently, the price of gasoline has been

rocketing.

Although the word “increase” and the word “rocket” do both refer to rise in amount or degree, the latter does underline the high rate of rise while the former does not. Thus, Interpretation 2 is more expressive.

Extract. 2

Source text: 随着苹果手机的大获成功，乔布斯的传记也随之洛阳纸贵。

Interpretation 1: Attributed to the epic success of Apple's cell phone, Jobs's biography has also been as expensive as paper in Luoyang.

Interpretation 2: Attributed to the epic success of iPhone, Jobs's biography has also been a bestseller.

Interpretation 3: Attributed to the epic success of iPhone, Steve Jobs's Biography has also been a bestseller.

From Interpretation 1, it can be seen that the interpreter does not know about the Chinese idiom “洛阳纸贵”, which is commonly used to describe the popularity of publications. As a consequence, the interpretation becomes unfaithful to the source text. For most of the translators, it might not be an issue because they are allowed to refer to dictionaries and make sure that no mistakes are made. However, interpreters are required to understand the source text in seconds without referring to any materials, as makes it necessary for them to memorize a considerable number of idioms and develop schemas in their brains. Both Interpretation 2 and 3 achieve faithfulness, and Interpretation 3 does even use the official title of Jobs's biography, as shows that the interpreter has a good contextual knowledge. However, Interpretation 3 is not necessarily more expressive than Interpretation 2, because all the audience do not know the official title of Jobs's biography. If not for a title clearly indicating the contents, citing the title might even make the audience confused. In other words, language schemas including elements that are not widely accepted do not contribute to the quality of interpretation. In summary, Interpretation 2 makes better use of language schemas than the other two, and interpreters should only work based on common language schemas, which can be understood by the most. Amongst specific groups of people, there exist some idioms that are useful for efficient interpretation. In specific, idioms commonly used by scholars, businessmen, and politicians can be, and sometimes must be used in interpretation. It is important for professional interpreters to memorize these idioms as language schemas.

Extract. 3

Source text: 我很荣幸地代表我们的公司向各位贵宾表示欢迎。

Interpretation 1: As a representative from our company, I feel honored to express warm welcome to our distinguished guests.

Interpretation 2: On behalf of our company, I feel honored to express warm welcome to our distinguished guests.

From a perspective of faithfulness, both Interpretation 1 and 2 have no issues. However, since Interpretation 1 contains a phrase that is not commonly used in business communica-

tion, it is possible that some of the audience feel confused and suspect that some additional information is intended. A commonly used phrase, which is an idiom in business communication, is used in Interpretation 2, and thus the audience can understand the interpretation without second guessing. Evidently, interpretation based on language schemas is not only efficient, but also more understandable for the audience. As a matter of fact, interpretation based on mere faithfulness from the perspective of translation often ends up with inexpressiveness and even misinterpretation. The word “sorry” is usually translated into “遗憾” in Chinese, but the word “遗憾” does not carry any connotation of regret and guilt, which the word “sorry” carries in English. Actually, the misinterpretation of the word “sorry” can be even found in a diplomatic event between the US and China [14].

3.3. Formal Schemas

The formal schema refers to the structure based on which words, phrases, and sentences are organized and arranged.

Extract. 4

Source text: 我认为可以向我们的现有顾客群体推广玩具等针对儿童的商品，因为虽然他们大部分是成年人。但是，他们中的大部分已经为人父为人母了。

Interpretation 1: I think it is feasible to market children's goods such as toys amongst our customer bases. Although most of them are adults, most of them have become parents.

Interpretation 2: I think we can market children's goods such as toys amongst our customer base, who are mostly adults but have children.

One distinguishing feature of Chinese is loose structure in comparison with English. The logical structure of Chinese is not clearly reflected in the organization and arrangement of words, phrases, and sentences, so the recipients of information have to identify the inner association between these elements and summarize the meanings [16]. However, conjunctions and subordinate clauses are commonly used in English to present a clear and sophisticated structure [6, 24, 25]. For this example, Interpretation 1 retains the structure of source text in Chinese, and thus the interpretation is so lengthy and poorly arranged that the audience might feel it difficult to catch up with. On the contrary, Interpretation 2 rearranges the structure of source text in a typical structure in English, making it clear and understandable. Evidently, it is necessary for interpreters to memorize a large amount of such structures as schemas to simplify interpretation.

Extract. 5

Source text: 病人注射了劳拉西洋，已经不再焦虑不安。

Interpretation 1: Lorazepam has been injected into the patient, who is no longer anxious.

Interpretation 2: The patient has been injected with lorazepam, recovering from anxiety.

For this example, neither Interpretation 1 nor 2 have any defects from perspectives of expressions and grammars. However, it is unsuitable to present Interpretation 1 to a pro-

professional in medicine, who might feel confused about the key points, because the subject clause should be the patient when a medication is mentioned, according to the routines in medical communication. If the medication appears as the subject, the professionals in medicine might wrongly take the medication as the topic rather than the patient, misled in the communication. On the other hand, symptoms and signs in medical communication usually appear as nouns instead of verbs and adjectives, because these nouns, such as anxiety and depression, have clear and unique meanings under medical contexts. The quality of interpretation plays an important role in trans-cultural healthcare service [5, 9, 18]. Thus, Interpretation 1 is faithful but insufficiently expressive in medical communication. The expressions “injected with” and “recovering from” used in Interpretation 2 are both common formal schemas in medical communication. An interpreter that often work for medical professionals should memorize some formal schemas in communication shared amongst medical staff, which reduce the time consumption of interpretation and make the interpretation more understandable.

Extract. 6

Source text: 董事会选举林先生成为主席, 这似乎导致了投资者的不安。

Interpretation 1: The board of directors elected Mr. Lin as the chairman, and it seems to have caused unrest amongst the investors.

Interpretation 2: Mr. Lin was elected as the chairman of the board of directors, which seems to have caused unrest amongst the investors.

Similarly, with the last example, both Interpretation 1 and 2 seem to be decent from a perspective of faithfulness. However, commercial communication is no less formal and standardized than medical communication. On one hand, the passive voice is commonly used in commercial communication to underline the official nature [13, 15, 21]. On the other hand, complex sentences are preferred to simple clauses in commercial communication to strengthen the coherence [1]. Thus, Interpretation 1 is considerably unofficial and slightly incoherent in commercial communication. The expressions “elected as” used in Interpretation 2 is a common formal schema in commercial communication. An interpreter that often work for businessmen and businesswomen should memorize some formal schemas in communication shared amongst them and hone his or her skills in organizing complex sentences.

3.4. Content Schemas

The content schema embodies the contextual information, so the application of it is usually dependent on the contexts under which source texts take place, as well as the roles of speakers. Content schemas not only allow the interpreter to predict the subsequent information and contribute to efficiency, but also mitigate the risk of misinterpretation. Content schemas are categorized into social contexts and cultural

contexts. Social contexts carry the information of the speaker and the audience concerning social position, personal history, while cultural contexts carry the information of the circumstances under which the event takes place.

Extract. 7

Source text: 我们不要求员工十八般武艺样样精通, 但希望他们能在某个领域独当一面。

Interpretation 1: We do not require our employees to be expert in eighteen styles of martial arts, but we expect them to be able to work independently in one field.

Interpretation 2: We do not require our employees to be expert in everything, but we expect them to be specialized in one field.

The schema in this example seems to be a language schema because the phrase “十八般武艺样样精通” is often used as an idiom to describe one’s talents in multiple fields in Chinese. However, this idiom does sometimes also refer to the literal meaning of it, describing one’s talents in multiple styles of martial arts. Actually, the schema in this example is a content schema concerning cultural contexts. Thus, the interpreter wrongly takes the literal meaning of this idiom in Interpretation 1, not considering the actual circumstances. Numbers are often considerably dependent on cultural contexts and considerably idiomatic in Chinese, so the number in an idiom do not usually carry the literal meaning [19]. Interpretation 2 accurately express the meanings of the source text.

4. Chinese-English Interpretation: A Simulative Workshop

4.1. Materials and Methods

Based on the schema theory, the instructor should not only list the information to understand in interpretation training programs, but also activate the pre-existing schemas in trainees’ brains. Thus, the new information can be understood and integrated into the pre-existing schemas, with some new schemas developed. Eventually, the trainees are expected to have updated schemas to base their interpretation practices after participating in these training programs. However, it requires sufficient participation of trainees for instructors to activate their pre-existing schemas and develop new schemas. The trainees are not passive recipients, but active participants in these training programs. The instructor guides the trainees to develop new schemas, rather than having them memorize some phrases and grammars only.

A simulative Chinese-English interpretation workshop with a speech entitled “孟晚舟清华演讲: 改变世界的都是年轻人” as the source text is designed [7]. The application of the schema theory is discussed at the three stages of workshop, namely preparation, training programs, and post-training enhancement.

4.2. Preparation

At the stage of preparation, the instructor should introduce the key words and essential sentences, analyze the structure, and share some contextual information. Thus, the trainees are allowed to understand the source texts from both macroscopic and microscopic perspectives. Eventually, the instructor can give hints to the related schemas, activating the pre-existing and developing the new schemas.

4.2.1. Introduction of Key Words and Essential Sentences

By introducing the key words and essential sentences, the trainees are allowed to identify the parts of the source texts that require attention and activation of language schemas. When a trainee fails to associate the key words and essential sentences with the pre-existing language schemas, he or she is likely to develop new language schemas based on the information obtained from the workshop.

Extract. 8

Source text: 大学之大在大师, 企业之强在强人。

Key schemas: language schema and formal schema

On one hand, this source text features a grammar commonly used in describing evaluation criteria in Chinese. On the other hand, this source text features a typical compound sentence including two independent clauses, which share the same structure. The instructor should guide the trainees in identifying these schemas and applying them to interpretation.

Interpretation: A university is great because of great masters, and an enterprise is excellent because of excellent employees.

The schemas embodied in this example can be applied to interpretation of similar compound sentences, which are common in Chinese, like the following example.

Extract. 9

Source text: 山不在高, 有仙则名; 水不在深, 有龙则灵。

It is a famous idiom in Chinese, which is often cited to underline the necessity of evaluation based on actual quality rather than external appearance. By applying the schemas identified in the last example and memorized in trainees' brains, the interpretation of this idiom can be considerably simplified as follows.

Interpretation: A low mountain is famous because of fairies, and a shallow pool is miraculous because of dragons.

4.2.2. Analysis of the Structure

At the stage of preparation, the instructor should not only analyze the source text, but also shed some light on the common features of similar oral texts, activating or developing formal schemas. The source texts of this workshop come from a speech including a considerable number of compound sentences. Also, compound and adversative structures are

abundant in this speech. As a matter of fact, the formal schema identified in Extract. 8 can be applied to interpretation of a number of essential sentences in this speech.

Extract. 10

Source text: 宰相必起于州郡, 猛将必发于卒伍

Interpretation: A prime minister was once a state officer, and a powerful commander was once a new soldier.

Similarly, adversative structures are abundant in this speech, and some of them are found in essential sentences.

Extract. 11

Source text: 一个企业的强大, 不在于收入强, 也不在于是不是世界 500 强, 而在于它能不能凝聚起全球最顶尖的人才。

Adversative structure is prominent in this sentence, so the formal schemas can be identified and recorded based on the basic expressions of adversity, such as “not...but...” and “...rather than...”.

Interpretation: The competitiveness of an enterprise is not evaluated according to either the income or the rank in world top 500 but based on the ability to attract world top talents.

Such formal schemas can be applied to a number of sentences featuring adversative structure in this speech.

Extract. 12

Source text: 勇敢不是不害怕, 而是心中有信念。

Interpretation: Bravery is not lack of fear, but faith in the heart.

Extract. 13

Source text: 我们认为, 90 后不仅不是非主流, 而是我们这个时代的弄潮儿!

Interpretation: We think that the generation born in 1990s is not non-mainstream, but the navigators of our era!

Extract. 14

Source text: 华为不论资排辈, 所以华为的英雄“倍”出不是一辈子的辈, 而是加倍的倍!

Interpretation: HUAWEI does not evaluate anyone according to seniority, and thus HUAWEI has masses of heroes, rather than generations of heroes!

Condition structure is another important formal schema in this speech, just like the following example.

Extract. 15

Source text: 不盯着客户口袋里的钱, 才能把钱赚进自己的口袋!

Interpretation: Stop longing for the money in clients' pockets, and you can make some real money for yourself!

4.2.3. Share Some Contextual Information

At the stage of preparation, the instructor should introduce the social and cultural contexts of the source texts, enabling the trainees to understand the contexts and circumstances under which the source text took place and activate the related content schemas. As far as this speech is concerned, the audience were mainly undergraduate students and thus a considerable number of idioms coming from ancient Chinese

literary works were used without worries about difficulty understanding. In addition, the speech was prepared for a recruitment fair, so a number of words and phrases associated with recruitment, such as “talents” and “employ”, were avoidably found in the speech text. Last, but not the least, HUAWEI had enjoyed an unprecedented prosperity in business when this speech was given, so the recent accomplishments were unsurprisingly mentioned and need additional attention in interpretation.

4.3. Training Programs

4.3.1. Purpose

At the stage of training programs, the instructor's task is to guide the trainees in decoding and activating the related schemas. Although the trainees have already activated and developed language schemas, formal schemas, and context schemas, which relate to the source texts, the trainees have not read the source texts. Thus, the instructor is responsible for guiding the trainees in decoding the schemas in the source texts and activating the pre-existing schemas, which include those learned prior to the workshop and those that have just been learned at the stage of preparation.

4.3.2. Extensive Listening

Extensive listening should be assigned at the beginning of training programs, aimed at developing a primary understanding of the source texts. In specific, the trainees should listen to the source texts several times without deeply considering under the guidance of the instructor. For the sake of guiding the trainees in understanding the source texts, the instructor should ask the trainees some questions before playing the audio record of source texts.

4.3.3. Intensive Listening

Intensive listening should follow the extensive listening in training programs, aimed at developing a substantial understanding of the source texts. In specific, the instructor should guide the trainees in listening to some essential sentences and identifying the key information. Thus, the trainees can practice decoding the schemas in the source texts and activating the pre-existing schemas.

4.3.4. Information Recording

1) Record information by taking notes

Taking notes is the commonest information recording strategy for consecutive interpretation. When taking notes for consecutive interpretation, two basic principles must be adhered to; one is that the notes should be brief and clear without rhetoric, and the other is that the notes should feature marks and abbreviations to simplify the structure.

2) Record information by memorizing

Memorizing is all but the only effective information recording strategy for simultaneous interpretation. The in-

structor should guide the trainees in summarizing the essential information. However, this training program is concerning consecutive interpretation and thus it is not necessary for trainees to practice recording information by memorizing.

4.3.5. Information Expressing

When expressing information, or more literally, interpreting the speech into English, the trainees should apply the schemas identified and memorized at the stage of preparation. The instructor is responsible for mentioning the trainees of the useful schemas when they fail to recall and apply them. As far as this speech is concerned, formal schemas for condition, compound and adversative structures are essential for schema-based interpretation, as well as some language schemas.

Extract. 16

Source text: 拒绝今天的快钱, 才能持续赚到钱。

Interpretation: Reject the short-term profits today and you can achieve sustainable profitability.

Explanation: Identification of condition structure as a formal schema is the key to fast interpretation.

Extract. 17

Source text: 华为用最优秀的人, 培养更优秀的人。

Interpretation: HUAWEI hire talents and cultivate more talents.

Explanation: Despite of a single-subject structure, identification of compound structure as a formal schema allows efficient interpretation.

Extract. 18

Source text: 华为坚持知本主义, 知识就是资本, 过去资本雇佣人才, 现在人才雇佣资本!

Interpretation: HUAWEI regard knowledge as capital. In the past, the capital employs talents, but now, talents employ the capital!

Explanation: Since the latter half is the essential, it is not necessary to put much emphasis on the former half. Thus, by applying a formal schema of adversative structure, the interpretation can be simple and clear.

Extract. 19

Source text: 在华为, 人人都是合伙人。在华为, 你不是为华为打工, 你是为自己创造价值。

Interpretation: Everyone in HUAWEI is a partner, who creates value for himself or herself, instead of working for HUAWEI.

Explanation: The application of “instead of” as a formal schema is essential for interpretation of this complex sentence.

4.4. Post-Training Enhancement

4.4.1. Necessity

At the stage of post-training enhancement, the instructor is responsible for guiding the trainees in reconstructing, coding, and transforming short-term memory into long-term memory.

4.4.2. Retelling

After training programs, the instructor should guide the trainees in retelling the source texts based on schemas. Retelling does not equal reciting but requires the trainees to summarize the essential information and express it without referring to sources. Actually, when the Chinese-English interpreters are familiar with public speaking, they are more likely to interpret a speech efficiently without mistakes [26].

4.4.3. Group Discussion

After training programs, the instructor should divide the trainees into small groups to discuss the progress they have made and take notes. It is also recommended that each group should have a representative to make a speech about their experience in identifying and applying schemas.

4.4.4. Exercise

After training programs, the instructor should ask each trainee to select a source text, collect the contextual information, and identifying the schemas. Eventually, each trainee should be asked to record his or her interpretation of this source text and share some experience in identifying and applying schemas.

5. Conclusion

As stated above, Chinese-English interpretation requires a good knowledge of both languages, but it is not based on unarranged separate elements. Humans associate new information with pre-existing schemas in their brains to simplify the comprehension and presentation, as serve as the main mechanism by which interpreters achieve efficiency in Chinese-English interpretation. In this study, an overview of the contribution of the schema theory to linguistics, second language teaching and learning, and interpretation is prepared, the three types of schemas are analyzed from a perspective of interpretation, and a simulative workshop of Chinese-English interpretation, which is based on the schema theory, is designed and discussed. By presenting these research, it is expected that some implications are provided for interpreters, interpretation trainers, and students. However, this study is no more than an initial project, which lacks in-depth investigation into the role of schemas in interpretation. It is expected that in the coming future the application of the schema theory can be underpinned by more empirical evidence based on neurological science and controlled trials.

Abbreviations

C-E: Chinese to English

CNS: Central Nervous Systems

ESL: English as Second Language

Author Contributions

Yang Chen is the sole author. The author read and approved the final manuscript.

Conflicts of Interest

The authors declare no conflicts of interest.

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