The Features of English Discourse in Mechanical Manufacturing and the Exploration of Translation Strategies

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Abstract. The analysis of the English discourse of mechanical manufacturing reveals that it is characterized with the professional vocabulary, concise expression and prominent key points. Exploration of the discourse translation strategy shows that it should retain its professional characteristics, achieve flexible translation connotation and rationalize the logic, further to ensure that the value of the discourse is accurately transmitted, and the English medium can be effectively applied in the field of mechanical manufacturing.

1. Introduction

To carry out English translation work, the translation strategy adopted is closely related to the stylistic content of the translated text. Professional English for Mechanical Manufacturing is a type of English for special purposes, which requires students having a mind of great capacity for text reading, in order to ensure that the work runs smoothly in a specific working environment (Jiang, 2020). Therefore, it is necessary to strengthen the analysis of the characteristics of this type of discourse, and propose a series of effective translation strategies to provide guidance for professional English learning and application.

2. Analysis of the Features of English Discourse for Mechanical Manufacturing

(1) Professional Words

Professional English for Mechanical manufacturing is characterized with a high degree of professionalism, and the relevant text contains a large number of professional vocabulary concerning to this field, such as workroll, anti-corrosion and so on. However, because of the polysemous of English vocabulary, it must be interpreted in combination with the professional context. For example, chip in Table 1 is usually interpreted as "fragment" and it has different meanings in different fields. With the development of industry technology, new concepts and terms are constantly emerging, resulting in rapid changes in terms. Various professional terms can be formed through word collocation and combination, such as plating, when it was combined with a word of metal, it can change into copper plating (Chen, 2018). Seeking for a concise expression, acronyms are often used, such as BOM for bill of materials.

| Fields                  | Conventional meanings       |
|-------------------------|----------------------------|
| Daily life              | pieces                     |
| Financial industry      | stock                      |
| Civil engineering       | attle:aggregate chips      |
| Computer industry       | Core plate                 |
| Mechanical manufacturing| cuttings                   |

Table 1: conventional meanings of “chip” in different field
(2) Concise Expression
From the perspective of discourse expression, declarative sentences are often used, and interrogative sentences or exclamation sentences are rarely used to reflect the rigor and accuracy of the content, with a strong color of application. In order to simplify the content, a large number of nominal structures are used in the discourse to avoid cumbersome content, and vague modality verbs are rarely used. The use of words such as "can" is also to ensure the preciseness. In terms of sentence expression, its meaning is usually complete and rich, while at the same time it can reflect the strong logic relation of the context and keep the overall structure tight and coherence. For example, in the sentence "shifting speed is varied in accordance with rolling speed and rolling force", the use of "varied in accordance with" makes the sentence logic clearly presented, so that a large amount of information was successfully integrated. In terms of rhetoric, ordinary English rhetoric techniques are rarely used, but passive voice is adopted, which can increase the amount of information through supplementing the phrases and modifying the rhetoric techniques.

(3) Prominent Key Points
From the perspective of the expression purpose of the English discourse for mechanical manufacturing, it is mainly to express objective facts or natural laws, so the argumentation process and results should be taken as the focus (Xue, 2020). Therefore, the discourse was often equipped with passive voice to highlight the subject status of things, so that the content can be described objectively and regularly. A few active voices also take things as the subject, emphasizing the objectivity. Due to the requirements of professional technical expression, the discourse needs to be clear and formal, and can accurately convey the core content such as mechanical principles and manufacturing instructions. Therefore, it is often described in combination with schematics and flowcharts, as shown in Figure 1. Mark of the key words in the picture can enable the recipient to clarify the core content and master the specific requirements and relevant conditions of the application in conjunction with the graphic description. In addition, professional English for mechanical manufacturing has the systematic formula expression, so other non-verbal methods such as calculation expressions can also be adopted to highlight the key points of the content.

Example 2: The cylindrical grinder is equipped with a headstock and tailstock between which the work is mounted and rotated as a grinding wheel in contact with the work removes metal from its circumference (see Fig.c below)

Figure 1 Common Pattern of the English Discourse Expression in Mechanical Manufacturing
3. Translation Strategies for English Discourse of Mechanical Manufacturing

(1) Retaining the Discourse Characteristics
Translation for the English discourse of mechanical manufacturing should retain the characteristics of professionalism in wording, refinement in expression, and concise in manner, so that the scientificness and objectivity of the translation can be fully demonstrated. Unlike natural science, which has the feature of formalization, English translation needs to combine explanation and description. Initially, we should classify the corpus, and grasp the sentence group of the original text and the characteristics of the discourse, then systematically analyze the format, and scope, etc., subsequently, we can summarize, describe and modify appropriately, to ensure that the original style and framework can be retained, and the text can be effectively translated (Huang, 2020). We need to systematically use industry terminology around the professional field, so as to integrate the professional terminology with the emergence skills, so that the information can be effectively transmitted. For example, when translating a compound word, as shown in Figure 2, we can, firstly, search for headword, and appropriately add or subtract words or change the part of speech to ensure that the content of the expression is accurate and objective (Miao, 2019). In accordance with the objective statement requirements of the scientific and technological style, the translation should ensure that the wording is rigorous, so that the subject-object relationship can be effectively simulated, so as to minimize the possibility of the receiver's misunderstanding.

Figure 2 Translation ideas of compound words in English discourse for Mechanical Manufacturing

(2) Flexibly Translating the Connotation
Unlike English, which emphasizes morphological expression, Chinese emphasizes connotative expression. If ignoring this difference, the literal translation is adopted for the translation of the professional terms in the text, it will be difficult for the readers to understand (Xiong, 2019). For this reason, short sentence translation method should be adopted to complete the content conversion according to the Chinese habit of expressing meaning in short sentences, further to ensure that the connotation of the discourse can be instantly transmitted. For example, when translating "In the past decade the engineering design of jet engines has continued to advance very rapidly", it can be briefly divided into two short sentences, namely the time (In the past decade) and the event (the engineering design of jet engines has continued to advance very rapidly) were translated separately in two short sentences. design has maintained rapid development". Separate narration according to the laws of Chinese expression can help the recipient easily understand and transform the meaning of the text in their brain, so that the translator's way of thinking and expression ability can be fully reflected. In addition, the translator should also process the particularized words in the text from the context, and ensure that the text information can cater for the recipient's language environment through appropriate information processing. For example, words such as "clearance" often appear in the major of mechanical manufacturing, which originally means "clear away; eliminate", but in the professional field, it often means "interval; separation" and other extended meanings. The translation of the meanings should also be extended reasonably to ensure that the connotation of the words is accurately reflected.
(3) Combing out the Expression Logic
Professional English sentences are complex, and in order to ensure that the meaning is clearly conveyed, the text usually contains multiple sentence components to explain the time, place, and conditions. In the translation process, the sentence structure must be combed out and the sentence components must be clarified. If the expression logic is different from the Chinese sentence pattern, the main sentence, clause and word relationship must be adjusted according to the expression needs to ensure that the translated language can cater for the habits of the recipient. If the separated translation method is adopted, we need to treat the modifier as an independent sentence or clause, and appropriately add coherent words to ensure the coherence of language expression. The passive voice sentence composed of words such as “note” can be translated with the predicate clause translated separately to form an independent structure. In addition, the subject of some English sentences can be used as the object, and the long sentence of the verb-object structure can be directly used for translation without additional subject. English is a balanced structure mostly in the passive voice, while Chinese is accustomed to adopting the active form. For example, the expressions “be changed or reprogrammed” in English emphasizes the state, and when it was translated into Chinese, it should also emphasize the actions, to avoid the stiff expression resulting from blindly continuing the original sentence structure (Wang, 2020).

(4) Delivering the Value Precisely
In the translation of English discourse for mechanical manufacturing, it is necessary to pay attention to “expressiveness”, that is, to ensure that the meaning of the article is clear. For this reason, it is also necessary to avoid sticking to the original form to ensure that the differences in cognition and expression brought by cultural background and customs can be balanced out (Sun, 2020). For example, in the translation of the sentence "Owing to rigidity of the spindle and bearings, the fluid bearings never lose their accuracy.", if "never lose" was literally translated, it is obviously not in line with the "precision maintenance" of the value concept of mechanical manufacturing that the original text wants to emphasize. Therefore, it is necessary to use the reverse translation method to translate it as "preserving accuracy forever", to avoid the complexity of the content, and at the same time, to accurately convey the textual value concept. In addition, if the subject of the original sentence may be an inanimate object such as a machine, there will be a problem of without a clear subject, and the generalized words such as "we" must be used. At this time, the original passive subject needs to exist as the object in the Chinese sentence, to ensure that the recipient can distinguish the importance of each component. To unify the text voice of the translation into the active voice can achieve straightforward language, and the deduction of the rhetoric, which can facilitate the recipient to understand the value of the information, further to improve the accuracy of translation.

4. Conclusion
In the big context of economic globalization, technological exchanges between countries are increasing, which requires the professionals having the professional English text translation capabilities. They also need to master the characteristics of the text in an all-round way, while highlighting the professionalism and practicality of the text, they should also flexibly use translation strategies and techniques to ensure that the content and logic are accurately expressed, so that the value of the original text can be precisely translated, which can ensure the key role of professional English in the development of the mechanical manufacturing industry.

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