

On the MTI Teaching from the Perspective of AI——Comparing Computer Language with English Language

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Abstract: The rapid development of MAT & MAI under artificial intelligence (AI) has brought new opportunities and challenges to the cultivation of MTI talents. Under the situation of a single foreign language discipline, the MTI talent training model can no longer meet the needs of specialized talents in the rapidly changing new market, so the reform of foreign language education into a comprehensive talent training model combining multiple disciplines is imperative. Under the new situation, the cultivation of translation talents cannot be separated from the fundamental of language, and all kinds of technical translation means under artificial intelligence can only play a subordinate role in this process.

1. Introduction

The rapid development of artificial intelligence provides a broad platform and prospect for the cultivation of MTI interdisciplinary talents of foreign language majors in colleges and universities. At present, the cultivation of MTI interdisciplinary talents not only greatly expands the operational advantages of English majors and accelerates the improvement of their translation validity, but also opens a door for non-English majors, especially non-foreign language majors, to change their majors. However, under the new situation, the transformation of teaching mode should be carried out step by step. After all, the lack of knowledge of other industries of English majors and the weak second language foundation of non-English majors are a very important restricting factor for the current MTI teaching reform. How to balance and coordinate the relationship between the two will determine the success or failure of the reform. With the continuous update and intervention of cloud computing, big data, artificial intelligence and other technologies, the society has increasingly high requirements on the practicality and professionalism of MTI talents. Therefore, it is necessary to reconsider and explore the cultivation of MTI talents under the new situation.

2. Status Quo of MTI Education

In January 2007, 15 universities including Beijing Foreign Studies University, approved by the academic degrees committee of the state council, became the first experimental units for the establishment of the Master of Translation and Interpretation education, which initiated the experimental stage of the MTI major. From 2010, domestic research mainly focused on the scientific discussion of MTI curriculum setting itself. In recent years, with the rapid development of artificial intelligence, related research has gradually turned to the "market-oriented" new MTI curriculum system setting, teaching reflection and long-term planning. According to the specific needs of local economic development for MTI talent training and their own discipline advantages, domestic colleges and universities began to construct the MTI characteristic curriculum system based on artificial intelligence. The training of MTI talents has entered a period of continuous reflection and rapid development. But as far as the present situation is concerned, the following problems mainly exist. First of all, the design of talent training time is unreasonable. MTI system in most colleges and

universities have only two years, this means that the students 's really professional learning in school time is far less than a year (because of the first semester elective subjects such as political theory mainly study), the second year at the completion of a period of 6 months above internship , at the same time also have to finish the thesis proposal, write, send outside, modify, careful defense and looking for a job tasks, such as MTI students real professional learning time is quite limited, a serious shortage of professional practice is, become a mere formality.

Second, MTI talent training curriculum view, because of the lack of MTI qualified teachers, the curriculum setting is still based on the traditional translation of the academic master's (MS) training concept, main subject still secure in the English language and literature and translation, core courses are limited to open business English, listening comprehension, and American general situation and literary translation, failure to effectively combine of universities and the local economic development expertise, combined related teachers resources form the distinctive MTI specialized courses. Under the general trend of rapid development of artificial intelligence, the construction of courses related to technical skills to improve students' translation efficiency is particularly inadequate by using computer-aided translation technology and building their own efficient translation memory database and term database. Another too much of a good thing, too much aspects mainly embodied in: too much emphasis on the leading position of machine translation in the translation process, ignoring that the students must have the basic skills of translation activities to strengthen the related curriculum, ignoring the MTI students as interpreters, compilation, professors or translation project managers role conversion must have the skills and quality training. As a result of the unreasonable concept orientation and curriculum setting, MTI students have a low degree of recognition of their own majors, and the learning of basic skills such as translation theory and skills, the differences between Chinese and western languages and cultures is superficial in form, relying too much on machines and exaggerating the auxiliary role of machines in the translation process.

Thirdly, the lack of MTI composite full-time teachers seriously impedes the effective development of MTI teaching and related research. MTI composition of teachers is mainly composed of various universities in language teaching has certain attainments on the knowledge system of foreign language teachers to serve as , but because of the older, not only lack of industry knowledge, but also on the translation technology already cannot satisfy the demand for the development of professional translator training, it is in urgent need of enrichment MTI interdisciplinary professional teachers team construction personnel training. In the current situation that there is a shortage of teachers who understand both translation and technology, it is urgent to study how to solve the shortcoming in talent cultivation through the construction of double tutor system and the introduction of teachers who know professional knowledge (especially computer technology and computer linguistics) to participate in the teaching of MTI.

3. Computer Language and English Language under Artificial Intelligence

"Artificial intelligence" is undoubtedly a technology combining "artificial" and "intelligent". From the perspective of artificial, the human brain's perception and thinking ability is beyond any machine; However, from the perspective of intelligence, software integration and brain-like chips are still the difficulties of modern science and technology, and the key technologies cannot be broken through overnight. At present, artificial intelligence technology has some limitations and is still in the primary stage of development. In particular, in the field of brain science research, people's emotional perception and artificial consciousness have not been well combined, and no significant achievements and breakthroughs have been made in the higher level of technology. Only the effective combination of artificial intelligence and human brain can achieve the effect of twice the result with half the effort. Biggest characteristics of the computer system is able to man's instructions by a "language" to the machine, all kinds of work, in order to make the computer requires a set of Numbers used to write computer programs, characters, words and grammar rules, so it seems that computer language is a language, a computer language is for communication between human and

computer is used when a particular code in English, it has its own special grammar rules, have very strong logical, coherent, linked together. Computer language, expressed in English, is a code form that makes it possible to communicate information between people and computers.

Computer languages, which consist of letters, characters, words, and acronyms for some words, are fundamentally different from the English language. The generation of computer language is mainly for human and computer information transmission, communication, and the formation of a series of computer itself can recognize the language; The English language is a common language for communication between people in different cultural backgrounds or the same cultural background. Both belong to the medium of semantic transmission, and there are still many similarities in the form of expression and the internal logic of semantics.

3.1. Similarity or Similarity in Semantic Transmission:

Take a piece of code of C++ language, the most basic computer language, as an example:

```
#include<iostream>
#include<math.h>
Using namespace std;
Void main()
{
    float a;
    float b;
    float c;
    cout<<"please put in a:"<<endl;
    cin>>a;
    cout<<"please put in b: "<<endl;
    cin>>b;
    cout<<"please put in c: "<<endl;
    cin>>c;
    float area;
    float s;
    s=(a+b+c)/2;
    area=sqrt(s*(s-a)*(s-b)*(s-c));//sqrt (square root calculations)
    cout<<"the aera is :"<<endl;
    cout<<area<<endl;
}
```

“Include” in the code means "include" in English, and in computer language, it means "include (some source files and digital streams)" -- computer language programs that don't have source files won't work properly; Using namespace, the original meaning of the English language is "Using namespaces", while in computer language, it conveys the meaning of "naming some variables and functions". Float, in English, means "to float," but in computer languages it is a float. Although there are some differences between the above code (computer language) and the English language, the overall meaning difference is relatively small. Function code in a computer language, such as Sqrt, means "square root" in English, and “endl” means end of the line. Therefore, in the language code of computer program, many codes directly use the original meaning or extended meaning of English language. Other proper nouns related to computer programming language also use a lot of English words, such as stack (heap/stack). In computer language, “stack” refers to two data structures, which is a special storage area. Its main function is to temporarily store data and addresses and stack them up.

Through the above comparison, it is not difficult to see that as long as people who have a certain English language foundation can understand the meaning expressed by 80% of the code through the analysis of the upper and lower lines of computer language by contacting the computer language. Therefore, computer language is closely related to English language. To some extent, English

language is the basis of computer language.

3.2. Subjectivity in Internal Logical Thinking Mode

The inner logic mode of computer language to some extent, are similar with the English language, because both belong to the category of language, but a kind of language is the language of human communication with the machine, and another language, is the language of communication between people, though, human communication with the machine language is more objective, but after all, edit program activity main body or in person, therefore, two languages have certain subjectivity. Since both contain subjectivity, then, in a sense, they contain the same way of thinking logic. Here is a comparison of some functions based on C++ language code and short sentences in English.

C++

```
Int max (int num1,int num2)
{
    Int result;
    If(num1>num2)
        Result = num1;
    Else
        Result=num2;
    Return result;
}
```

English phrase

If number "2" is greater than number "1", the result equals to number "2".

The meaning of this C++ program is to compare the value sizes of num1 and num2 variables. If num1 is larger than num2, the output will be num1 and vice versa. It's not hard to see that the English phrase has the same meaning as the parentheses in the code above. Therefore, logically, both languages have some subjectivity because of people's participation.

3.3. Overlap of Post-translation Editing

Due to the limitations of the development of artificial intelligence, machine translation is often over-translated. Overtranslation refers to literal overtranslation, that is, translating the source language content that should not be translated into the target language. For example, keywords, function names, special names, and so on.^[1]

```
$("#wrapper").onclick(function (e){
document.getElementById('#dropdownbutton').style.visibility = 'visible';
})
$(document).mouseup(function (e)
{
var container = $("#wrapper")
if (!container.is(e.target) // if the target of the click isn't the container...
&& container.has(e.target).length === 0) // ... nor a descendant of the container
{
$("#dropdownbutton").hide();
}
});
});
```

In the computer programming language above, hide() and show() correspond, respectively, to hide and show functions. At present, in the process of machine translation, it is still unable to recognize common words, keywords, functions and other situations, which results in the translation should be translated, should not be translated out, this is the current machine translation to solve a common problem. This raises the question from another point of view, why does machine translation, when translating these programs, confuse the target text with English words or the keywords and functions of the program itself? Does this mean that some English words overlap with some computer program

code? The answer is yes.

The formation of social relations originates from tools, which are indispensable for human beings to complete a task. To sum up, computer programming language and English language have semantic similarity and logical subjectivity, which shows that there is a certain correlation between the two languages and some overlap. But because MT system not well, the language features of two languages, to clarify the logic relation of complex sentences containing, translation of long sentence when the effect is not ideal^[2], coupled with excessive translation, etc. These problems that exist in the process of machine translation, so, after the computer programming language translation, editing work is inseparable from the artificial processing, polishing and revising of the English language, and for those who can't even see a little program MTI talent, also can understand some computer program code, and there are similarities in the computer language and English language. If we can, therefore, the organic combination of computer language and English language training more than double language skills and professional ability of MTI students, let them both quite a professional term in bilingual translation of science and technology, at the same time, make them master the operation of the computer aided translation and have certain professional knowledge level, the computer technology, combining translation ability and professional knowledge, will certainly can be more efficient and closely to do translation, get twice the result with half the effort effect. Therefore, in addition to the cultivation of bilingual ability, the inclusion of second professional knowledge or skills as elective courses into the curriculum system of MTI talent training undoubtedly adds wings to MTI students, which is not only an opportunity but also a challenge for MTI students.

4. Machine Translation and Human Translation

With the rapid development of people's demand for various information, the rapid development of machine translation technology under artificial intelligence and the continuous development, application and update of a large number of translation software, the traditional translation method of manual work has been far from meeting the rapidly growing demand for translation, and people's demand for machine translation is unprecedented. "Computer-aided translation tools from the initial basic fuzzy matching and editing function, development to the translation of automatic text input and automatic spelling check, after the translation of the batch quality assurance, to the translation project segmentation, project packaging, financial asset management information statistics, process monitoring, language, etc., function more and more, presents the trend of integration."^[3] However, in terms of the current situation of machine translation under artificial intelligence, there are still many deficiencies in translation tools and translation assistance software with complete functions and similar human translation validity, especially in corpus construction and post-translation editing.

With the improvement of corpus technology and the expansion of corpus translation studies, the study of language development has become the focus of standardized studies.^[4] the corpus in this paper refers to the large-scale electronic text library of scientific sampling and processing, which is the source of machine translation under artificial intelligence. Machine translation system is developed with the rise of corpus linguistics. As a resource and means of translation teaching, corpus has attracted more and more attention from researchers, teachers and MTI students.^[5] corpus is the most authentic language material that has appeared in the actual application of language, and it is the basic resource carrying language knowledge (not language knowledge). Real language materials need to be processed manually before they can become useful resources in machine translation. Since corpus is the construction of language practical application, professional translation talents, mainly trained by MTI talents, will certainly become the main body of corpus construction. They can readily add semantically relevant professional terms and words encountered in daily translation practice to corpus, so as to constantly enrich and improve the quality and quantity of translation memory database and corpus in the process of machine translation, and achieve the reliability and validity of machine translation. In the era of fast-paced development, human translation can take machine translation as the fulcrum, save time and effort, and complete translation tasks efficiently.

Human translation on the basis of machine translation (translation review or compilation) is conducive to the identification of machine translation quality and the improvement of machine translation quality, so that machine translation can better serve human translation activities.

Machine translation and human translation are just like a pair of contradictory bodies of "machine (technology)" and "human (language)" under the development of modern times. In order to form an effective resultant force, the organic integration of the two must be achieved. At present, some translation software companies even shout the slogan "artificial intelligence will lay off human translation". Throughout each machine translation web page version of the screenshot is not hard to find, though fruitful, each has its own characteristics, but at its root, the vast majority of MT system processing difference is not obvious, is basically a rule-based translation methods and strategies on the basis of the use of stage: the analysis of the source language or understanding, in the language of a plane, according to the structure of the target language rules to generate the target language. At present, the units that actually have the scientific research power of machine translation in China can be the following organizations:

Table 1 Names and Types of the Institutions

Types of the Institutions	Names of the Institutions
State-owned Research Institutes	Institute of Automation, Chinese Academy of Sciences; Institute of Computing Technology; Institute of Scientific and Technical Information of China (ISTIC)
Colleges and Universities	Tsinghua University; Northeast University; Suzhou University; Harbin Institute of Technology; Nanjing University, etc
Business Institutions	Microsoft Research Asia; Baidu; Youdao; Tencent; Sogou; Alibaba; Netease, etc

The technical difference between them is mainly reflected in the transformation plane. Even away from the traditional neural RNN or CNN model Google translation of the machine translation, while greatly improved the automatic translation contains semantic information and the original language the semantic information of similarity, but due to a lack of perception of translation context information, in the case of large space input article, could easily lead to decoding is not successful.

Therefore, no matter how the machine translation technology under artificial intelligence develops, there will still be bottlenecks of one kind or another. For example, semantic ambiguity and unknown phenomena commonly found in natural languages cannot be fully covered by the machine translation data memory database and terminology database. In addition, interlingual translation is first manifested as character conversion, but is not limited to character conversion. Moreover, the decoding of translation is not unique. There will always be differences in humanistic interpretation and differences in judgment standards among thousands of readers. Especially for those national languages and discourse patterns with typical characteristics, the reproduction of the translation often requires the unremitting efforts of the translator throughout his life, which is beyond the competence of machine translation models. Therefore, no matter what form of automatic translation of machine translation, human translators need to be involved in varying degrees.

5. Cognition of Concepts

As a "computer systems are used to convert the text or voice automatically from a natural language translation into another language," the machine translation^[6], its development history can be traced back to a few decades ago. In 1954, Georgetown University, combination of IBM, applied IBM-701 computer to complete the English-Russian machine translation for the first time test, kicking off the prelude of machine translation research. With the birth and rise of the Internet and the development of electronic technology, the amount of language data generated by human beings has soared. Therefore, statistical methods have been fully applied, and the translation machine has made great progress from the original lexicographical word translation to complete sentence conversion. After

joining machine translation, we only need to read the profile of the translator or translation activities across the retrieval language scene, thus greatly improve the efficiency of the translation of the translator and the range of the translation with the original, but the human is not yet clear how the brain is fuzzy recognition of language and logic, to achieve hundreds of machine translation, without manual intervention to achieve human translation activity in cultured "letter, elegant" translation standard, still has a long way to go. Especially the Chinese and foreign language contains a national cultural connotation of slang or idioms, some oral English, and along with the time development and is endowed with new cultural connotation of words or semantic change, or some translation machine translation software can not replace human translation, this also is indirect evidence for the existence of human translation irreplaceability. The computer is the human brain extension, not only has the extraordinary computation ability, the rich memory function, also has more accurate judgment ability, but the machine forever serves the human, should not also be impossible to override on the human brain. Therefore, MTI talents can never be completely replaced by machines. After dual professional training and translation technology training, it will be more conducive to improving the research and development of machine-aided translation and auxiliary translation software, so that the machine can better serve human translation activities.

Conversely, with the progress and development of artificial intelligence, computer itself after the perception ability and thinking ability get rapid ascension, through the computer conducive to the development of a particular programming language, people's own demand into a computer can understand the language to complete a higher level of human-computer interaction, so as to get rid of to the person's basic rely on machine translation process. Therefore, the development of artificial intelligence, although many to MTI students such as studies into, professional in-depth and professional development opportunities, but no matter for undergraduate English majors or non-English majors was admitted to MTI students more - or challenges of the non-English major students came under pressure from the language of English major students, the more also need in computer knowledge and operation technology, etc. Therefore, MTI personnel training should be closely related to the development of era, to adapt to the trend of the market demand, get rid of the original pure language training education ideas, expand cooperation and exchanges, increase the relevant professional teacher training and the introduction of, further refined course direction, while expanding students' field of vision to increase students' computer time, familiarize) with the real operation process, the corpus of machine translation and translation memory library building mode.

6. Conclusion

The inherent connection between computer language and English language makes it possible to train compound MTI talents. It is irrational to exaggerate the difference between the two. However, we must see the challenge brought by machine translation under artificial intelligence to MTI talent cultivation in colleges and universities at present -- low-end translators will be eliminated for The Times and the market, or even replaced by machines. How to break through the MTI talents cultivation due to technical development and huge amounts of information in MTI graduates cannot adapt to the emergence of lead to rapid changes of social development needs of the bottleneck, improve the effect of MTI talents market, worth more experts and scholars in the study, want to countermeasures, Suggestions, rather than focusing on language and technology, and the relative merits between professional. To know, there is no technology and technological innovation without language, and there is no language without rules. Professional knowledge can be passed on through language, and language can never be empty to reproduce. These two always complement each other .

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