The Application of AI Translation Technologies in Translation Teaching: Challenges and Opportunities

FAYANG HUANG

ABSTRACT

As most of the LSPs (Language Service Providers) are developing their business with the help of AI technologies, the translation industry is gradually reformed by technological means. The changes in translation market require languages professionals to adjust their attitudes and methods to technologies. As for translation majors in colleges, we also need to pay attention to the application of AI translation technologies. In this paper, I would like to, firstly, give a brief introduction of current mainstream of AI translation technologies and then, secondly, I will have a discussion on challenges and opportunities that we are facing in translation teaching.

Key Words: AI translation; Translation teaching; challenges; opportunities

1. INTRODUCTION

The application of language processing systems is now an unavoidable trend in language services. However, most of the universities or colleges are still sticking to their traditional ways to cultivate their students, which is disconnected with the market demands of more translation talents working with higher efficiency and better quality. Artificial intelligence translation system is considered as one of the best assistants for human translators so far. Among them, NLP (natural language processing) is the most advanced one, which can be very helpful in improving the working efficiency of human translators.

School of literature, law and foreign language, WuChang University of Technology, Wuhan, China
The whole AI translation system is built on corpus with big data as its support and logic reasoning as its fundamental rule, as well as algorithm as its processing tool. Now the application of NLP system consists of various levels, forming an effective and organic entity for commercial services.

As we can see from the above illustration, the establishment of a general and high-quality NLP system needs to contain root database, automatic abstracting system, various machine translation systems, full-text information retrieval system, and natural language interface of expert system. It is a quite mature industry now and many technological giants, such as Google, Baidu, Facebook, have invested on the research and development of NLP system to occupy the future translation market share.
2. CHALLENGES IN TRANSLATION TEACHING WITH AI TRANSLATION TECHNOLOGIES

2.1 The scarcity of hardware and technological equipment

Most of the students majoring in English or translation are studying in schools of foreign languages or literature, which belongs to literal arts or the humanities. Technologies do not play a dominating role in such kind of schools in universities. The main technological equipment and devices for translating courses are basic multi-functional media tools, such as simply-configurated desktop computers for teachers only, projectors for presenting slides, microphones, etc. The lack of hardware gives the students very few chances to get access to relevant technologies and operation in person. Most of the students do not form a comprehensive impression on how AI translation system runs and what benefit machine translation can bring to us. I would like to take the English Department of Wuchang University of Technology as an example to show the actual situation of the scarcity in devices for operating AI translation systems or applications. The data is collected from the official sources in the School of Foreign Languages and Literature.

Figure 3. Equipment distribution and allocation.

<table>
<thead>
<tr>
<th>Number of multi-media classrooms</th>
<th>Years that computer used</th>
<th>Projectors installed or not</th>
<th>Translation applications</th>
<th>Online dictionary</th>
<th>Investment Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>listening</td>
<td>6</td>
<td>12</td>
<td>not</td>
<td>not</td>
<td>yes</td>
</tr>
<tr>
<td>printing</td>
<td>1</td>
<td>10</td>
<td>not</td>
<td>not</td>
<td>no</td>
</tr>
<tr>
<td>translation</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>conference</td>
<td>1</td>
<td>10</td>
<td>yes</td>
<td>not</td>
<td>no</td>
</tr>
</tbody>
</table>

We can see from the above figure that very little importance has been attached to the development of translation teaching and modernization. Most of the hardware is too old to operate the latest advanced AI translation systems. It becomes an obstacle of improving and popularizing machine translation technologies in universities.
2.2 The lack of professional teachers that can teach latest AI translation technologies and operation skills

As we know, the vast majority of teachers teaching translation courses are majoring in languages or literature, which means that they know very little about computer science or complicated Internet operation. Most of the AI translation platforms or applications are designed and developed by programmers from technological companies. They consist of professional terms and jargons, as well as codes and algorithms, which is far beyond the knowledge scope of teachers who are educated to be a translation teacher in traditional ways. Therefore, it is another great difficulty for students to get access to the advanced translation technologies. Without the introduction of the relevant technological information from teachers, most students know very little about machine translation, some of them even ignorant of them, still sticking to the traditional methods of acquiring translation skill.

Figure 4. Scope of teachers and students knowing mainstream AI translation systems.
(Samples: 10 English teachers, 10 tutors and 30 English major students)

<table>
<thead>
<tr>
<th>Scores of knowing AI translation</th>
<th>1. Never use any of them</th>
<th>2. Use online dictionaries sometimes</th>
<th>3. Use language corpus</th>
<th>4. Use Trados/BLEU</th>
<th>5. Master most of the AI translation apps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers(10)</td>
<td>0</td>
<td>5</td>
<td>4</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Students(30)</td>
<td>3</td>
<td>25</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Tutors(10)</td>
<td>6</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

It is shown that we still stay in a ‘primitive’ stage of applying AI translation technologies. The teachers are not capable of teaching or assisting students to learn more about machine translation. They teach in classes and cannot sense the advantages of AI translation technologies which can greatly improve the effectiveness and efficiency of translation work.

3. OPPORTUNITIES OF BRINGING AI TRANSLATION TECHNOLOGIES INTO TRANSLATION COURSES

3.1. Cooperation between schools and LSP (language service providers) enterprises

In recent years, the Chinese government makes a series of policies to promote the
development of Internet industry, which is generally called “Internet+ Program”. Many universities are seeking chances to cooperate with big companies specializing in artificial intelligence translation technologies, or NLP (natural language processing) technologies. Take Wuchang University of technologies as an example, they now are cooperating with companies like Transn and Flytek, to build practice base for students, offering them chances of getting internship positions in these companies. It is really helpful for students majoring various languages to get further to know and operate these complicated systems and satisfy the practical social demands for professionals.

3.2. Expansion of translation tasks from society

With the fast expansion of Chinese economy, more and more companies are exploring foreign markets and seek to occupy more market shares all over the world. Meanwhile, in domestic markets, the increasing contacts among Chinese people and foreigners also stimulate the explosion of translation needs. The needs are so diversified and the workload is soaring. Translators realize their limitation on dealing with their work within limited time and the computer-aided translation tools and systems are strongly acquired. The feedback will finally get back to universities and more measures will be taken to improve the current situation. It is estimated that over 70% of universities are in the process of investing on equipment, recruiting and training technological professionals to cultivate more students that accept specialized courses.

4. CONCLUSION

The Application of AI translation Technologies in Translation Teaching is and will be a hot issue in universities as well as in translation markets. Here I give an introduction of AI translation technologies, so we can have a quite clear impression of it, especially the basic principles and the commercialization of practical NLP system. Challenges and opportunities that we are facing in translation teaching are explained in part two and three, with the scarcity of hardware and the lack of professional teachers as obstacles, and national favorable policies and strong market demands as opportunities. The paper will have a certain significance of guiding the development of translation teaching strategies and tools.

REFERENCES