# Study on College English Translation Teaching Strategies Based on the Perspective of Data Fusion and Cultural Construction

### Yongyan Dong\*

School of Education, Yunnan College of Business Management, Kunming, 650106, Yunnan Province, China \*Corresponding author (Yongyan Dong, Email: Dorisdong525@163.com)

Keywords: College English, Translation teaching strategies, Data fusion, Cultural construction

**Abstract:** In order to improve the efficiency and accuracy in translation teaching, the paper researches on the College English translation teaching strategies based on the perspective of data fusion and cultural construction. At present, the focus of English translation teaching is focused on the teaching of English major translation. This paper analyses the current situation of College English translation teaching in China and discusses its countermeasures. The perspective of data fusion and cultural construction is proposed in this paper to deal with the experiment data. The result shows the proposed method can improve the overall performance in the teaching cases in this paper.

#### 1. Introduction

The problems in English translation teaching are gradually emerging with the response of English learners, feedback levels of translation proficiency, proficiency test and feedback from employers. According to the professional attributes of the learners, the teaching objects of translation are divided into two categories: the teaching of University translation and the teaching of professional translation. In order to avoid conceptual confusion, the former is called College English translation teaching, and the latter is the teaching of English major translation. At present, the focus of English translation teaching focuses on the latter, the teaching of English major translation, while the former is on the edge of translation teaching and research. This paper analyzes the current situation of College English translation teaching in China and discusses its countermeasures.

At present, the teaching of College English translation is at the edge of the study of English translation teaching. This situation is different from the Chinese translation scholars' debate on "translation teaching" and "teaching translation" to see the spot. Generally speaking, the above point of view is: the core of translation teaching is to teach translation skills and knowledge, aiming to cultivate specialized talents in translation. Teaching translation is regarded as one of the means of foreign language teaching, aiming at helping students master relevant language points and improve their foreign language proficiency. It is true that there is a difference in the focus of attention between translation teaching and teaching translation. However, a widespread belief in the field of translation teaching research in our country is: "teaching translation refers to the language teaching in Chinese translation, the translation of it are low, more suiTable for foreign language teaching and other forms of translation courses outside; and as the teaching purpose of translation teaching is a professional, for it the higher requirements". It is well known that in English Teaching in China, teaching translation is mainly used in College English teaching and seldom used in English teaching. The author thinks that the attitude of the scholars in the translation field to the teaching of translation rather than on the teaching translation has the dislike of the marginalization of the teaching translation. In fact, teaching translation is indeed marginalized, and even some researchers have misplaced the negative effects of translation teaching on teaching translation. One of the direct influences of the marginalization of teaching translation is the marginalization of College English translation teaching in the field of translation teaching. Not only that, in the field of College English teaching, translation teaching is also marginalized.

DOI: 10.25236/icemeet.2019.378

First, as a guiding and inspecting document of College English teaching, the College English syllabus has not given enough attention to the teaching of translation. There are four main syllabuses in the course of the development of College English Teaching in China. In the four part of the syllabus, "science and engineering program" pointed out that the purpose of College English teaching is to cultivate students with strong reading ability, certain listening and translation ability, and according to the difference of the two stages of the foundation stage of College English teaching and professional reading, students are given in the Provisions on the specific translation ability. However, in the 1986 edition of the outline of Arts and science, it emphasized only the basic language teaching, emphasizing the training of students' reading and listening abilities, but did not require any students' ability in translation. The 1999 edition of the "new program" in the teaching purpose to mention the training of students' translation ability, the key is to cultivate students with strong reading skills and some reading, writing and translating ability, although in translation ability it requires to take into account the ability of the students in English translation and Chinese English terms the. One of the highlights of the new syllabus is the different specific requirements for the students' translation ability at different stages of College English teaching. The goal of the 2004 edition of "College English teaching requirements (Trial)" is focused on the training of students' English comprehensive application ability, especially the ability of listening and speaking. A common feature of the new syllabus in the training of students' translation ability is that they put forward different specific requirements according to the three levels of general requirements, higher requirements and higher requirements of College English teaching. It is not difficult to see from the analysis of the contents of the above syllabus that translation teaching is marginalized in College English teaching (Chong, 2017; Luong, 2015).

### 2. Problems in the teaching of college english translation

The marginalization of translation teaching in College English teaching makes college English translation teaching a growing problem.

- (1) The setting of the translation course is in an awkward position. According to the author's incomplete statistics, translation courses for College English teaching are almost invariably set up as public elective courses, and even in some colleges, there is no translation theory and practice course for College English teaching. The nature of public elective course in translation course makes the translation teaching increasingly difficult. The main manifestations are as follows: first, the time limit for the course is short, and the teaching hours are not enough, so it is difficult to complete the established teaching task. Due to the influence of many factors, many colleges and universities have given strict regulations for the period of elective courses, usually for one semester, 2 hours a week. This is not enough for the completion of the teaching task of the translation theory and the practice course. Most of the time teaching is only a superficial point, as can be imagined its teaching effect; secondly, in view of the importance of translation theory and practice, the number of elective translation course, many students, students are a class of up to 200 to 300 people, so the translation teaching practice cannot be carried out, the teaching quality cannot be guaranteed; third the number of students, because students, Chinese and English level is uneven, and some students enrolled in this course are just holding the objective study of the interactive teaching is difficult (Deng, 2017; Calefato, 2016).
- (2) As mentioned above, College English syllabus only requires students' abilities in terms of translation ability, and no overall teaching plan has been formulated. The current translation teaching for College English in their own state, engaged in theoretical research and teaching practice of translation in the same hospital school even teachers are lack of communication, not to mention among colleges on issues related to college English translation teaching for communication. Although the "College English Curriculum Requirements (for Trial Implementation)" according to the requirements of the general requirements of College English teaching, higher and higher requirements put forward different requirements of the three different levels of students' translation ability, but the content and way of teaching the students of all levels did not give a clear indication of the translation, so teaching in different levels will inevitably

produce teaching content and other aspects of the problem, thus affecting the quality of teaching, hindering realization teaching goal.

- (3) At present, the teaching of College English translation is still confined to the traditional teaching model. The model is centered on teachers, and the communication of knowledge is directed by the teachers to the students and the terminal effect of the translation, that is, the translation of the students. Therefore, the cooperation and interaction between teachers and students is rather limited in teaching process, and there is no necessary cooperation and communication between students, so that we cannot guarantee the full play of the main role of students. Besides, due to the fact that there are many classes, teachers cannot provide feedback information one by one, and students can't understand their shortcomings and shortcomings, which is unfavorable for their improvement of translation ability. In addition, the traditional teaching methods of College English translation emphasize language knowledge and translation knowledge, while neglects the cultivation of translation skills.
- (4) Although there are a lot of College English textbooks nationwide, but almost no one specifically for College English translation of the unified teaching materials. According to the statistics, the past five years, published around the translation textbooks, translation, translation guide handbooks books up to more than three hundred ", but most of the material is similar, the framework and the content is basically the same, but the content of the old", "most of the quality is not high, a lot of fallacy". The survey found that more than recommended by the Ministry of education of College English textbooks used in the national scope, almost all to keep from talking about translation theory and skills, not to mention the systematic description and explanation of the. This point also highlights the reality of the marginalization of translation teaching in College English teaching.
- (5) Test is an important link in College English teaching. As the main test method of College English teaching, there are few test types for the students' translation ability in the 46 level tests of College English. During the ten years from 1985 to 1995, no translation tests have been found in the ten years of the four and six level of College English examination. So many scholars regard translation as the importance of a type of 46 level test. However, in recent years, the type of translation is still sometimes absent in the 46 level test, and the test type is single. College English level Four and six has been regarded as a baton in the teaching of College English in China and a hard indicator to evaluate the comprehensive school level of colleges and universities. Therefore, universities, teachers and students do not pay enough attention to the teaching of translation.
- (6) The studies on English major's enrollment and various teacher training in Colleges and universities for the construction of teaching faculty in Colleges and universities has injected fresh blood, but compared with professional English translation teaching teachers, teaching staff construction of College English translation has not yet been put on the schedule. Although the age and title structure of translation teachers have been more reasonable than those of College English teachers ten years ago, most translation teacher's still lack strict vocational training and academic training. In many colleges and universities, many teachers who are engaged in translation teaching lack the proper translation theory attainment and practical experience in translation. The above views basically reflect the current situation of translation teaching teachers in China. In addition to the above questions about translation teaching curriculum, teaching plan, teaching mode, teaching materials and teachers, subject to college English translation teaching students, there are also many problems are not solid, basic skills and basic skills of English Chinese translation skills such as lack of. With the rapid development of China's economy and the continuous expansion of foreign exchanges, there are more and more needs for all kinds of translation talents in the society, and the level of translation talents is also increasing. Although more than 400 universities in China have offered translation courses, some of them still have translation departments to train specialized translation talents. However, the contradiction between translation teaching and learners and social needs is increasing. Just depends on the translation teaching for English majors to cultivate translation talents cannot meet the social needs of various professional translation talents and the translation teaching for English majors cultivate translation talents and not immediately for a

variety of specialized industries and professional technology in the field of translation services. Therefore, it is becoming more and more urgent to solve the problem of translation teaching in the field of College English teaching.

#### 3. The model and algorithm of perspective of data fusion and cultural construction

The object of web content mining and web structure mining are all primitive data in websites, while web usage mining is a kind of data mining that it mines the information of server logs after the user browse the web pages. This information include accessing date, time, user IP address, server IP address, accessed URL resources, server response state and transmitted bytes etc. Figure 1 shows the classification of websites data and web data mining.

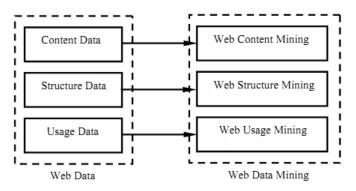


Figure 1. The basic model

A fuzzy decision-making methodology is adopted here to select the first "the most" and the steps are as follows:

$$\overline{x_i} = \frac{x_i - b_i}{a_i - b_i} \quad (1)$$

Where  $X_i$  and  $X_j$  respectively, the i-th index and the actual value Standard value;  $a_i$ ,  $b_i$  are the maximum, minimum, the i-th index. Known evaluation indexes m, n hidden layer nodes depending Problems and experimental data to determine, you can also experience the value of the formula (2) the decision.

$$n = \log_2 m$$
 (2)

Ant colony optimization algorithm is essentially a multi-agent, through the interaction between single agents to complete the complex behaviour of the ant colony. The basic principles of ACO are illustrated through the traveling salesman problem, such as described. Hidden node output is calculated as follows:

$$h_j = f\left(\sum_{i=1}^m w_{ij} x_i - \theta_j\right) \quad (3)$$

There are disadvantages of falling into local optimum and the slow convergence in ACO. Inspired by feeding, clustering and rear-end behaviours of Artificial fish-swarm algorithms, on the basic of the ant colony algorithm, applied the rear-end behaviour of the Artificial fish-swarm algorithm to modify the solution of a feasible region was searched by ant colony. The cores of the ant colony algorithm are paths selecting strategy and the pheromone update mechanism. Thus, to select the next customer j for the kth ant at the ith node, the ant uses the following probabilistic formula. Where  $\theta_i$  is defined as the threshold value for hidden node.

The output of the output node is calculated as follows (Turner, 2015; Yan, 2017):

$$f\left(\sum_{i=1}^{m} w_{ij} x_{i} - \theta_{j}\right) = f\left(f\left(\theta_{j}\right)\right) \quad (4)$$

Where in  $\theta$  is an output node threshold.

Equation (3) and Equation (4) in the transfer function is generally expressed as (0,1) interval of S-type function:

$$f\left(\sum_{i=1}^{m} w_{ij} x_{i} - \theta_{j}\right) = f\left(f\left(\theta_{j}\right)\right) \quad (5)$$

Each index can score from reviewer's subjective scoring method after obtaining. The data to be using equation (1) is normalized.

$$\overline{x_i} = \frac{x_i - b_i}{a_i - b_i} \tag{6}$$

 $h_i$  is gaussian basis function, the basic equation of RBF nueral network function is shown below:

$$h_{j} = \exp\left(-\frac{\|X - C_{j}\|}{2b_{j}^{2}}\right), \quad j = 1, 2, ..., m$$
 (7)

The output of the network is given as:

$$y_m(k) = wh = w_1h_1 + w_2h_2 + ... + w_mh_m$$
 (8)

Assuming the ideal output is y (k), the performance index function is:

$$E(k) = \frac{1}{2} (y(k) - y_m(k))^2$$
 (9)

Based on the gradient descent method, node centre and base width parameter are:

$$w_{j}(k) = w_{j}(k-1) + \eta(y(k) - y_{m}(k))h_{j} + \alpha(w_{j}(k-1) - w_{j}(k-2))$$
(10)

$$\Delta b_{j} = (y(k) - y_{m}(k)) w_{j} h_{j} \left( \frac{\|X - C_{j}\|^{2}}{b_{j}^{3}} \right)$$
 (11)

When a search completed, the information contained on walking path is an extracting feasible solution. Length of the path is the value of the objective function. State solution is expressed by the state vector X. Xk is the solution searched by the kth ant. So far, the optimal solution is Xbest. Comparison of their fitness, if the current solution Xk is better than the optimal solution Xbest, the value of Xbest is replaced by the value of Xk, Otherwise the value of Xk is changed as the following (Broich, 2015):

$$b_{j}(k) = b_{j}(k-1) + \eta \Delta b_{j}$$
  
+\alpha\left(b\_{j}(k-1) - b\_{j}(k-2)\right) (12)

$$\Delta c_{j,i} = (y(k) - y_m(k)) w_j \frac{x_j - c_{j,i}}{b_j^2}$$
 (13)

Jacobian matrix algorithm is shown as follows:

$$\frac{\partial y(k)}{\partial u(k)} \approx \frac{\partial y_m(k)}{\partial u(k)} = \sum_{j=1}^m w_j h_j \frac{c_{1j} - x_1}{b_j^2}$$
 (14)

(1) The raw data layer stored the original data in CRM as well as the books information. For

example, it includes the daily user access log information gathered. These logs information collection and excavation is essential for individual recommendation level, because through the Web site usage mining, user-access to content, residence time and frequency we can obtain the behavior and the way users access to the general knowledge to improve the Web site services design. More importantly, through the characteristics of these users, they can conduct targeted personalized service.

- (2) The user ontology layer. This level is the proposal and optimization of the original data layer. That is, through semantic extraction, semantic tagging methods the original chaotic, non-structured or semi-structured data can be structured to the reusable, on-ambiguous understanding of ontology library, providing the foundation excavation for data mining layer.
- (3) Data mining layer. The level makes deep-level ontology excavation using various mining technology including association rules, cluster analysis, decision tree, discrete point detection, neural networks, evolution analysis. For example, mining association rules can be applied to CRM ontology mining. In this process we deal with a URL address as a project, a browsing process as a record. Then from such a database, we can find out the URL address of the association rules which is helpful for the Internet search engine and thus these rules associated with the network address of a series can be presented to the user. When a user is reading a web page, personalized service in advance the user might visit later in the page can be provided in accordance with association rules.

## 4. College english translation teaching strategies

There are a lot of problems in our country in translation teaching, translation studies circles Different people, different views., put forward their own views, although there is a considerable part of the English Majors in translation teaching, but for College English translation teaching, still has a very important reference and enlightenment. A translation workshop teaching method is proposed in this paper, that is to say, a translation workshop similar to the business translation center is set up by two or more translators. The translator can communicate with each other and cooperate to solve the problems arising from the translation process. The purpose of this teaching mode is to promote students' understanding of translation skills and strategies from the perspective of translation practice, emphasize the participation of students and play the main role of students, that is, students are participants and learners, as well as collaborators. Teachers are the leading players in teaching activities, playing the role of guides, organizations, advisers, supervisors and opportunity creators. This paper holds that learner centered is a teacher who takes all factors into consideration based on the different interests, abilities and learning methods of every student, and formulating a learning goal suiTable for the learner based on the negotiation with learners.

Considers the learner's subjective initiative, creativity and interaction of the curriculum, but also fully coordinated the relationship between learners and translation teaching and the market demand, to cultivate live activity, knowledge structure and can adapt to and meet the social needs of translation talents of high quality. The comparison is not difficult to see, although the above two kinds of translation teaching mode is different in wording, but the guiding spirit is exactly the same: a abandon teacher centered teaching mode of traditional translation; translation teaching emphasizes learner centered; emphasize the negotiation and interaction in the process of translation teaching; learning people's participation and cooperation; emphasizes the learners of translation skills and strategies. Considering the current situation and problems of College English translation teaching in China, and based on the existing research results, the author puts forward his own views on the problems in College English translation teaching, for reference. First, change the marginalization of translation teaching in College English teaching. To change this situation, we first need to discard the difference between College English translation teaching and English major translation teaching, and discard the traditional teaching mode of college translation. Of course, non-English majors exists a certain gap in English professional knowledge and skills, but this does not mean that translation teaching in two areas with high and low two different levels of requirements, because even the English majors also exist in the English level and Chinese level uneven. The author thinks that the reason why some scholars have these ideas is that their thinking is still limited to the traditional methods of translation teaching. Many scholars hold a similar view, they believe that the "learner centered" translation learning objectives "in theory, in Chinese mainland should be feasible, although the specific operation process is set in the translation course, this may be a difficult target, especially on the mainland China's colleges and universities, manpower and material resources are exhausted, but the key lies in the teachers, students and schools and society can change the traditional education philosophy".

The author approves that in education and teaching all flowers bloom together. Concept today, researchers engaged in translation teaching and research should be Mr. Lu Xun "used" spirit, eclectic to absorb nutrients from the educational psychology and other fields, in order to promote the reform of translation teaching concept and mode. Second, there are a large number of institutions of higher learning in China, and there are great differences between colleges and universities in various regions. Under the premise of lacking national teaching syllabus for College English translation, every region or university should formulate a suiTable syllabus for College English translation according to the actual situation of the local area or our college, so as to guide college English translation teaching. The author believes that the areas or institutions can based on the 2004 edition of "College English Curriculum Requirements (for Trial Implementation)" in the three different requirements for relevant content requirements for the cultivation of students' translation competence, to develop a more specific and more practical translation teaching syllabus, and according to the requirements of the outline, in full consideration of students' needs, market demand, unified prepare for new concept of translation teaching situation and the economic and cultural development in the current textbooks of translation. Third, after the formulation of the syllabus, there must be qualified teachers of teaching translation teaching that can fulfill the objectives and tasks specified in the syllabus. As mentioned above, is currently engaged in translation teaching of teachers is not optimistic, so the education departments at all levels should focus on the cultivation of eyes to Chinese and English ability, the young teachers interested in translation teaching and research, in order to meet the needs of the development of College English translation teaching. Fourth, in the course of College English translation teaching, we should abandon the past teaching form of heavy knowledge and light skill. Translation teaching should focus on the cognitive and metacognitive strategies adopted by students in the process of translation practice, so as to cultivate students' translation skills and skills, and lay stress on developing students' creative thinking ability and English Chinese bilingual expression ability.

Translation tests must be used as a permanent project to test the level of College English teaching and make it an external motive for students to pay attention to and improve the ability of translation practice. Finally, in order to promote the development of College English translation teaching, we must make full use of the new achievements and new tools in the field of translation studies and teaching. The study of corpus based translation, which was developed in the 1990s, has become an important tool in the field of translation research and teaching. Corpus based translation teaching has the following advantages: (1) co-occurrence corpus retrieval software can realize the dynamic context, the true nature of the corpus provides effective basis for the translation practice and teaching; (2) statistical functions can realize the translation of the text corpus analysis of equivalent probability, which corresponds to the situation and characteristics of the data in the corresponding text in particular, the word intuitive, to promote the teaching of translation; (3) statistical analysis of the corpus function can also realize the translation and the translator's style, and in view of scientific data showing the translation and the translator's style. Although corpus based translation teaching has these advantages, its application in the field of College English translation teaching is almost blank. In the current translation teaching mode emphasizing "learner centered" and emphasizing teaching interaction and cooperation, the introduction of corpus assisted translation teaching will undoubtedly promote the development of College English translation teaching.

In the translation of Chinese and English, students generally do not have too many understanding problems, and teachers' problems are more aimed at the place where students think they understand correctly but are wrong. The students complete the communication with the text when they answer

the question of a shallow and deep question. While acquiring the perceptual knowledge of reading the original language skills, they have gained the experience of using translation techniques. In the conversion stages, according to the cognitive characteristics of different students both English to Chinese and Chinese to English translation, adopt different teaching methods. Because of the students have a better ability to master the mother tongue, as long as the understanding does not have much difficulty, students can basically smooth the translation of the translation. Their main problem is that the translation often does not conform to the Chinese habit because of the interference of English syntax. Therefore, in teaching, the author suggests that after translating, we will exchange translations with students, and modify the translation from the point of view of target readers, find out the sentences which are not smooth, and finally check the texts by themselves, and implement the translation. The communication between students and students is not only active in classroom atmosphere, but also helps students to invest in learning with more enthusiasm and get better teaching results. In addition, we also advise students to record the difficulties encountered in the process of translation in the process of translation. For example, it is impossible to find the appropriate corresponding language, and cannot judge the conversion unit and so on.

These records can be left for the teachers to diagnose students' problems in the process of translation, understanding their translation thinking traces, find out the common problem, feedback to students in the next translation teaching, which is also one of the interaction between the interactive translation teaching mode in high school, teachers and students of the way. In the stage of translation reorganization, the interactive translation teaching model not only pays attention to the interaction and communication between teachers and students, but also pays attention to the cooperation between students. After the translation is given by the students, the teachers arrange the students to compare and judge the advantages and disadvantages of the translation in the form of group discussion. We suggest that students read recorders repeatedly, according to the specific translation purpose of the original language, and judge the smoothness and fluency of the target text with the identity of the target language readers, and compare them with the reference translations provided by the teachers, so as to give an objective and pertinent evaluation.

The interaction between teachers and students is always throughout the "interactive" translation teaching process. Through such interaction, teachers can create relaxed, lively, cooperative and competitive teaching environment. Such an environment is a prerequisite for translation teaching and translation ability. In this environment, students play their own subjective initiative, consciously summarize the rules, carry out practice, and ultimately improve the translation skills. The interactive translation teaching mode is based on the rule of cognitive activity and based on constructivism theory. It is a train of thought for translation teaching reform. It is aimed at traditional teaching of translation, which is limited by textbooks or language phenomena and neglects the main role of students. It aims to overcome the shortcomings of traditional translation teaching, create an interactive teaching environment between teachers and students, and activate students' learning initiative, so as to achieve the best teaching effect.

#### 5. Conclusion

The paper researches on the College English translation teaching strategies based on the perspective of data fusion and cultural construction. It is true that there is a difference in the focus of attention between translation teaching and teaching translation. However, a widespread belief in the field of translation teaching research in our country is: "teaching translation refers to the language teaching in Chinese translation, the translation of it are low, more suiTable for foreign language teaching and other forms of translation courses outside; and as the teaching purpose of translation teaching is a professional, for it the higher requirements". It is well known that in English Teaching in China, teaching translation is mainly used in College English teaching and seldom used in English teaching. The author thinks that the attitude of the scholars in the translation field to the teaching of translation rather than on the teaching translation has the dislike of the marginalization of the teaching translation. The perspective of data fusion and cultural construction is proposed in this paper to deal with the experiment data. The result shows the proposed method

can improve the overall performance in the teaching cases in this paper.

#### References

- [1] Broich, M., Huete, A., Paget, M., Ma, X., Tulbure, M., & Coupe, N. R., et al. (2015). A spatially explicit land surface phenology data product for science, monitoring and natural resources management applications. Environmental Modelling & Software, 64(C), 191-204.
- [2] Calefato, F., Lanubile, F., Conte, T., & Prikladnicki, R. (2016). "Assessing the impact of real-time machine translation on multilingual meetings in global software projects". Empirical Software Engineering, 21(3), 1002-1034.
- [3] Chong, C. C., Lim, T. Y., Soon, L. K., Tang, E. K., & Ranaivo-Malançon, B. (2017). "Meaning preservation in example-based machine translation with structural semantics". Expert Systems with Applications, 78, 242-258.
- [4] Deng, D., Xue, N., Deng, D., Xue, N., Deng, D., & Xue, N., et al. (2017). "Translation divergences in chinese-english machine translation: an empirical investigation". Computational Linguistics, (2), 1-65.
- [5] Luong, N. Q., Besacier, L., & Lecouteux, B. (2015). "Towards accurate predictors of word quality for machine translation: lessons learned on french–english and english–spanish systems". Data & Knowledge Engineering, 96-97, 32-42.
- [6] Turner, A. M., Brownstein, M. K., Cole, K., Karasz, H., & Kirchhoff, K. (2015). "Modeling workflow to design machine translation applications forpublic health practice". Journal of Biomedical Informatics, 53, 136-146.
- [7] Yan, L., Chi, M. V., & Wong, P. K. (2017). "Extreme learning machine for huge hypotheses reranking in statistical machine translation". Cognitive Computation, 1-10.