

An Exploration of Cultural Translation Strategy for the Chinese Winter Olympic Games Considering Semantic Domain Language Model

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Abstract:

This paper introduces the strategy of cultural translation of the Chinese Winter Olympic Games based on the design model of basic language translation. Taking the cultural translation of the Chinese Winter Olympic Games as an example, it expounds and analyses the reform process of the translation, including teaching objectives, teaching contents, teaching methods and the evaluation of foreign translators. The reform of the cultural translation of the Chinese Winter Olympic Games is based on the guidance of the cultural translation of the Chinese Winter Olympic Games, and the final reform plan is determined by collecting a large number of empirical data. The proposed reform plan for the cultural translation of the Winter Olympic Games in China has important implications for other colleges and universities to explore the strategies of cultural translation of the Olympic Games in China.

Keywords: *College English Teaching; Teaching Reform; Foreign Translation Settings; Chinese Winter Olympic Culture Translation*

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1. INTRODUCTION

Foreign translation refers to the overall concept set by an educational institution to meet the learning needs of foreign translators and achieve the desired educational goals^[1-2]. The foreign translation setting is the material content and important guarantee for implementing and realizing the goal of talent cultivation, which is the concrete manifestation of the social development needs and school training goals. In the

context of strengthening international talent cultivation and expanding the international vision of foreign translators at Fudan University based on the national development strategy, after several years of research and development, the College English Teaching Department has carried out a teaching reform with the goals of improving the comprehensive application, cultural communication and academic English capabilities of foreign language translators^[3-4]. It aims to solve the problems

such as the unilateral emphasis on the comprehensive application of foreign language in the training of foreign language talents in colleges and universities, the neglecting of individualized development needs of foreign translators, the disconnection of foreign translation settings and capacity cultivation, the lack of comprehensive evaluation strategy closely related to the teaching, etc., and a diversified, multi-level foreign language teaching strategy that is also systematic, dynamic and three-dimensional is established^[5-8].

In this paper, we will introduce the content and characteristics of the cultural translation strategy for the Chinese Winter Olympic Games and introduce the guiding role of the strategy in the specific foreign translation setting and evaluation with the cultural translation for the Chinese Winter Olympic Games as an example. The concepts and methods proposed in this paper are instructive to the construction of foreign language translation strategies in other universities and the setting and evaluation of the specific foreign translation.

I. 2. THEORETICAL BASIS

The planning and development of the cultural translation strategy for the Chinese Winter Olympic Games follows the language translation design model (as shown in Figure 1). The model includes the following essential elements:

1) Analysis of Needs

The first step is to systematically collect and analyze the needs of foreign translators through questionnaires and interviews. The needs of foreign translators are divided into three aspects: wants, that is, which the foreign translators think they need; lacks, that is, the knowledge or skills that the foreign translator still requires; necessities, that is, the foreign translator needs to learn, which may be related to the school. Future jobs and

national requirements for talent development. Hence, in the needs analysis of foreign translation design, the needs of individuals, schools, the society, the state and other levels should be considered comprehensively^[9-11].

2) Analysis of Environment

In addition to analyzing the needs, it is also necessary to examine the entire teaching environment, including the three factors of foreign translators, teachers and teaching conditions^[12-13]. For example, the level of foreign translators, motivation for learning, teacher status, class time, class size, teaching equipment, the sufficiency of teaching resources and so on.

3) Setting of Goals

The teachers should clarify the overall goal of foreign translation based on needs analysis and environmental analysis. Figure 1 shows that the goals are at the center of the model, which determines the specific content of the teaching (such as the language knowledge, skills, strategies and so on), scheduling, teaching modes and methods, teaching materials, monitoring and evaluation learning method^[14-15]. Focusing on these specific teaching objectives and content, the teachers need to make essential decisions in three areas, including the choice of teaching modes and methods, the choice of teaching materials, and the choice of evaluation types and methods.

4) Principles Followed

The principles above the model indicate that all steps in the construction of the foreign translation must follow the language and the rules of teaching and learning. Based on the theory and research results in the fields of second language acquisition, foreign language teaching, mother tongue acquisition, and education, 20 fundamental principles related to teaching methods, teaching materials, and tests were proposed. For example, in the teaching method, there is a principle of “comprehensible input”, which

provides the foreign translator with a lot of interesting and understandable input of listening and reading. In short, classroom practice should be closely integrated with theoretical research. This combination can help teachers achieve optimal teaching effectiveness.

5) Foreign Translation Evaluation

The outermost circle of the model is evaluation, that is, to collect, synthesize and analyze all information related to the quality evaluation of the foreign translation, including the test results of the foreign translator, the attendance rate, the foreign translator satisfaction survey, and the teacher satisfaction survey. The purpose is to improve the quality and effectiveness of foreign translation continuously. It should be emphasized that this evaluation process involves every aspect of foreign translation design, as shown in Figure 1. Each link is in the cycle of planning, execution, evaluation, modification, and re-execution, re-evaluation, and modification. In short, the construction of foreign translation in this model is not a final product but rather a continuous dynamic process that continually adapts to new situations and changes.

Compared with other foreign language translation design models, the proposed model has several advantages: (1) It is clearly proposed that the practice should be guided by the theory of language and language teaching, and the theoretical principle is regarded as one of the important components of the model, which will undoubtedly facilitate the close combination of theory and practice; (2) The classification and connotation of each link in the foreign translation design is more reasonable, clear and comprehensive, which is convenient for us to use it to guide the teaching; (3) It has performed more detailed evaluation of the learning results and translation quality, rather than classifying them to the same category. This can help us to refine the evaluation of

the two types and purposes further. Given the above factors, we have selected the model to guide the construction of the entire teaching strategy and the setting and evaluation of each of the foreign translations.

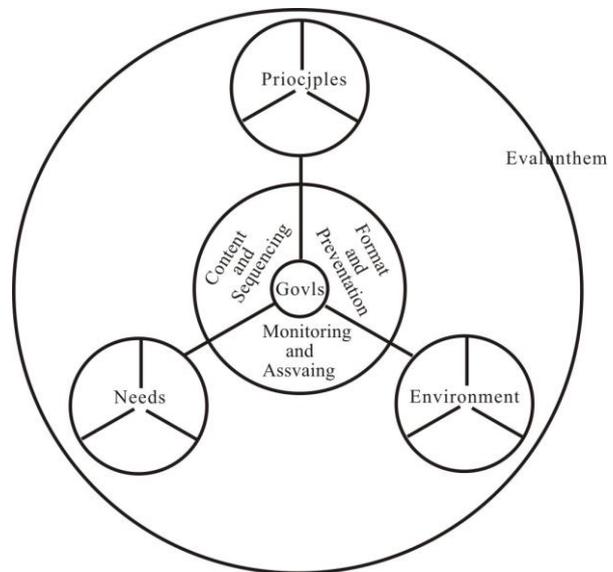


Figure. 1 Language translation design model

3. CULTURAL TRANSLATION STRATEGY FOR THE CHINESE WINTER OLYMPIC GAMES

A. 3.1. Content and Characteristics of the Strategy

Based on the college talent cultivation objectives and the specific situation of foreign translators, and based on the language translation design model, we constructed the cultural translation strategy for the Chinese Winter Olympic Games that reflects the characteristics of Fudan University (as shown in Figure 2). The strategy includes the college foreign language translation strategy and the college foreign language environment platform, with the foreign language translation strategy as the primary strategy, the foreign language environment platform as the supplement, linking the intra-curricular and extra-curricular activities for foreign language learning throughout the four years in the college. Among them, the college foreign

language translation strategy includes five modules: comprehensive English, general academic English, special academic English, language culture and second foreign language, focusing on cultivating foreign translators' comprehensive foreign language application ability, academic English ability, humanities literacy and intercultural communication ability, instrumental and humanistic, thus forming a diversified feature of the foreign translation. The level of meaning is reflected between the modules of foreign translation, indicating the relationship between the foreign translations, to constitute the systematic translation of the university English translation. The foreign translation in each module also implements graded teaching, teaching students following their aptitude to meet the individual needs of foreign translators. Each module, level of foreign translation is relatively independent, self-contained strategy; clear ability cultivation goals, foreign translation settings and requirements. Meanwhile, the foreign translation of each module are mutual complementary that fully meet the needs of translators at different levels for diversified English learning.

The college foreign language environment platform includes a personalized platform and a public platform. The personalized platform provides a space for extracurricular learning for foreign translators. The essence of this is an informal foreign translation, about the type of foreign translation. Based on the individual needs of the foreign translators, the teachers use the spare time to organize various English communication activities, such as lectures, skills training, competitions, one-on-one teacher and student counseling, online learning and problem-solving. The public platform refers to the Fudan English Test (referred to as FET for short). FET is a general-level academic English level

translation that is closely related to teaching. It combines the characteristics of achievement-based translation and English-level translation. The foreign translation adopts the communicative language ability model commonly used in the international language testing community to examine the foreign translator's listening, speaking, reading and writing skills and comprehensive language application ability. Many studies on this foreign translation show that the reliability and validity of the foreign translation are entirely satisfactory; the evaluation of the candidate's foreign translation is more positive; the foreign translation has specific positive guiding and washback effect.

B. 3.2. Cultural Translation for the Chinese Winter Olympic Games

According to the design of foreign language teaching strategies (as shown in Figure 2), the “Cultural Translation for the Chinese Winter Olympic Games” should be attributed to the general academic English translation, which is between the comprehensive English translation and the special academic English translation. From the perspective of language level, the foreign translation belongs to the transitional translation at the intermediate-level English; from the foreign translation content, the foreign translation should reflect the essential characteristics of general academic English. According to the requirements of the cultural translation strategy for the Chinese Winter Olympic Games, the old version of the foreign translation has the following problems: (1) Excessive emphasis is put on the importance of English-Chinese translation skills in the translation teaching, but it is evident that only the English-Chinese translation skills are taught. It is impossible to make the foreign translation reflect the characteristics of its general academic English translation; (2) Although the

quantitative method is adopted in the formulation of teaching objectives, that is, the foreign translator completes 160 words of English to Chinese and 200 words of Chinese to English in 30 minutes, but the teaching objectives are relatively simple and the expression is relatively vague; (3) It mainly advocates the traditional method of translation teaching, emphasizing the teaching of English-Chinese translation skills in translation, which is relatively thin in the new foreign language teaching strategy. Meet the needs of the new situation. Based on the above questions, we believe that the following two important principles should be followed in the revision of the foreign translation syllabus: (1) In the revision of the syllabus, it is necessary to collect data extensively and determine the content of the new syllabus based on empirical research; (2) In addition to considering the location of the foreign translation in the new Cultural translation for the Chinese Winter Olympic Games, it is also necessary to listen to the voice of the foreign translator, combining the “top-down” and “bottom-up” method. Based on the above two guiding principles, the revision of the English translation syllabus mainly focuses on the following three questions: (1) How to make the Cultural translation for the Chinese Winter Olympic Games better reflect the characteristics of the general academic English translation? (2) As general academic English translation, how does the cultural translation for the Chinese Winter Olympic Games support the transition from comprehensive English translation to specialized academic English translation in the cultural translation strategy for the Chinese Winter Olympic Games? (3) What role can the foreign translators of the Chinese Winter Olympic Games play in improving the general academic English level? Focusing on these three research questions, we mainly revised the old version of the Cultural translation syllabus for the Chinese Winter

Olympic Games from four aspects as follows: foreign translation objectives, teaching content, teaching methods and foreign translator evaluation.

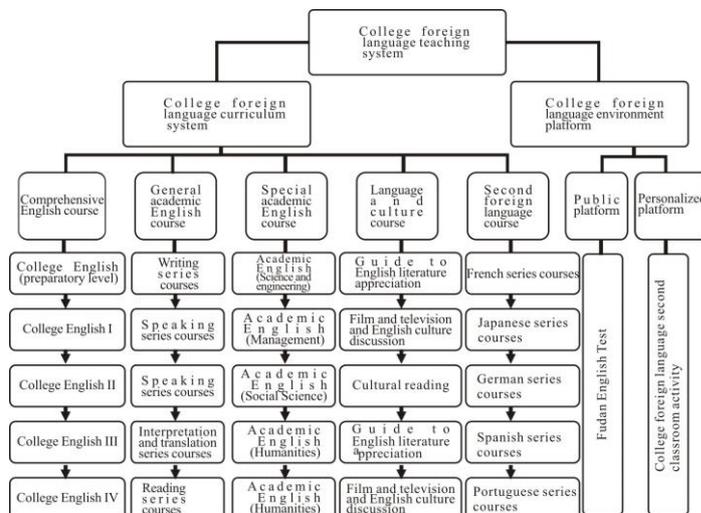


Figure. 2 Cultural Translation Strategy for the Chinese Winter Olympic Games

4. CASE ANALYSIS OF CULTURAL TRANSLATION STRATEGY FOR THE CHINESE WINTER OLYMPIC GAMES

C. 4.1. Research Design

This study mainly applies a hybrid research design method combining qualitative and quantitative. The study can be divided into two phases (as shown in Figure 3). The first phase is qualitative research, and we collect relevant data mainly through core group discussions and one-on-one interviews. The research at this stage focuses mostly on the three purposes of the purpose and motivation of the foreign translator's cultural translation in the Winter Olympic Games, the teaching methods and the learning effects that the foreign translators hope to achieve. Based on the qualitative results of the first phase, we designed a second-stage quantitative study questionnaire and used it to collect quantitative analysis data. In this study, we have developed two questionnaires, that is, the China Winter Olympic Games Cultural Translation Teaching Questionnaire

(Questionnaire 1) and the Foreign Translator Evaluation Questionnaire (Question 2). Based on the research results at these two phases, we finally confirmed the revised scheme of the cultural translation syllabus for the Chinese Winter Olympic Games. Subject to the limited space, only the second phase is reported in this paper, that is, the relevant results of the quantitative research part.

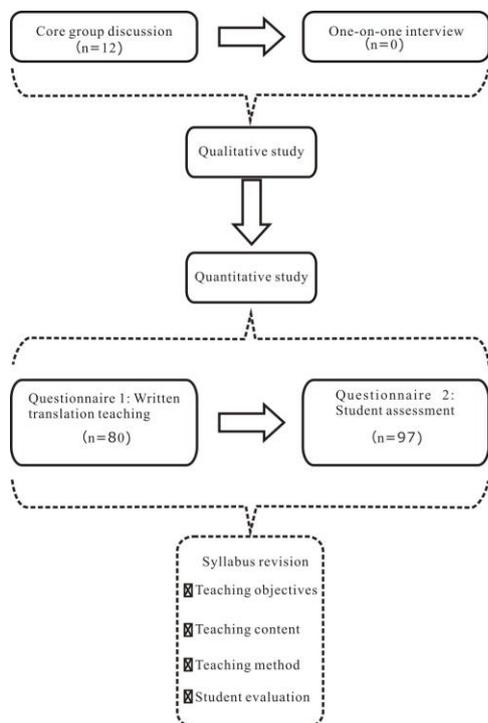


Figure. 3 Research design

4.2. Research Tools

Questionnaire 1 mainly includes the following four components: (1) the English level self-evaluation of the foreign translator ($n=5$, $\alpha=0.77$); (2) the purpose and motivation of the foreign translator's cultural translation in the Winter Olympic Games ($n=10$, $\alpha=0.63$); (3) The learning effect that the person expects to achieve through the foreign translation ($n=11$, $\alpha=0.92$); (4) the teaching method that the foreign translator expects the instructor to use ($n=11$, $\alpha=0.76$). The questionnaire uses a five-point Likert scale. Questionnaire 2 was adapted from the designed "Translator's Mutual Assessment Questionnaire"

and adopted the six-point Likert scale ($n=8$, $\alpha=0.82$). After the completion of the design of the two questionnaires, we invited the teachers of the English translation team to discuss and review the contents and wording of the questionnaire and revised the questionnaire on this basis. Meanwhile, we also tested the Questionnaire 1, and the results showed that the internal consistency of the questionnaire was ideal ($\alpha=0.82$). Questionnaire 2 has been validated in the study, so we believe that the quality of the two questionnaires is good and suitable for large-scale data collection.

D. 4.3. Subjects

The subjects in Questionnaire 1 were 80 undergraduates who chose English translation in the first half of 2014, including 26 male students and 51 female students. The gender data of the three subjects were missing. From the distribution of the grades of the subjects, most of them were sophomores, 44 in total, 28 were freshmen, and there were fewer foreign translators in juniors and seniors. There were 5 people and 3 subjects. Grade data is missing. As Questionnaire 2 involves the foreign translator's understanding of self-evaluation and mutual evaluation, the foreign translator should have some knowledge and experience for self-evaluation and mutual evaluation when answering the questionnaire to ensure the validity of the questionnaire data. Hence, the data collection work in this part was completed near the end of the second semester of 2014. A total of 97 foreign translators participated in the survey, including 50 male students and 46 female students, and the gender data of one subject was missing.

E. 4.4. Data Analysis

To understand the quality of the two questionnaires, we first calculated the internal consistency reliability coefficients of the two questionnaires before conducting the specific data analysis (as shown in the "Research Tools" section). After the reliability analysis is

completed, we mainly make a descriptive statistical analysis of the questionnaire data, including calculating the mean and standard deviation of each item in the questionnaire and the frequency of distribution of each option in the questionnaire. On this basis, we merged the option categories in the two questionnaires into two categories: “agree” and “disagree” and conducted the sample t-test to study whether the subjects' attitudes toward these problems were significantly different. In some parts, we also used a paired sample test to compare whether the subjects' attitudes toward the two questions were significantly different. All statistical analysis in this study was performed by using the SPSS 21.0 software.

F. 4.5. Research Results and Discussion

1) 4.5.1 Self-evaluation of English Ability of Foreign Translators

Table 1 shows the self-evaluation data of the foreign translator's English level. The foreign translators believe that their overall English level is medium ($M = 3.01$, $SD = 0.71$), which is basically in line with our expectations. Since the foreign translation is a general English academic translation, the foreign translator should take the foreign translation after completing the comprehensive English translation (as shown in Figure 2). Hence, most of the foreign translators should have a medium or above medium English level. Among the four language modules of listening, speaking, reading and writing, the foreign translator has the highest self-evaluation average for the reading module ($M = 3.34$, $SD = 0.79$), and the lowest self-evaluation for the two modules of listening and speaking (Listening: $M = 2.88$, $SD = 0.93$; speaking: $M = 2.45$, $SD = 0.86$). The results of the paired sample t-test showed that the foreign translator's self-assessment of reading ability was significantly higher than their self-assessment of listening ($t = 3.88$, $df = 79$, $p = 0.00$, $d = 0.44$ ²) and speaking ability ($t = 7.52$, $df = 79$, $p = 0.00$, $d = 0.84$). This is basically consistent with our expectations. In

general, the survey results in this part are basically in line with our expectations, indicating that the language ability of the foreign translators of the Winter Olympic Games culture meets the basic requirements of the foreign translation. However, due to the possible validity of self-assessment, the data in this section should be interpreted with caution.

Table 1 Self-evaluation of English ability of foreign translators (n=80)

Language skills	Mean	Standard deviation	Skewness value	Flatness value
Listening	2.88	0.93	-0.32	-0.42
Reading	3.34	0.79	-0.38	0.84
Writing	3.03	0.71	-0.25	0.97
Speaking	2.45	0.86	0.22	0.08
Overall language ability	3.01	0.71	0.21	1.02

2) 4.5.2 Desired learning Outcome

Table 2 shows the data on the learning effects that the foreign translator expects to achieve. The table shows that the most desired learning effect of the foreign translator is to improve their overall English level through the study of the foreign translation ($M = 4.55$, $SD = 0.78$), which is perfectly in line with the results of our previous part of the study and further explains the foreign translator. Foreign translation is regarded as a language translation, not a professional translation. Although the foreign translator generally believes that the foreign translation is a foreign language translation since the main content of the foreign language translation is English translation, the foreign translators of the Winter Olympic Games cultural translation also generally believe that the important effect of the foreign translation is desired. One is to learn relevant translation knowledge ($M = 4.43$, $SD = 0.79$) and translation skills ($M = 4.44$, $SD = 0.78$). In comparison, foreign translators have lower expectations for improving their academic English writing ability ($M = 3.85$, $SD = 1.04$) and verbal reporting ability ($M = 3.64$, $SD = 0.93$). The reason may be that the name of

the foreign translation is “English translation”, so the foreign translation is not based on academic writing or oral presentation. The results of the chi-square test indicate that the test results for all items in this section are significant ($p < 0.01$). The proportion of foreign translators who indicated “agree” was significantly higher than the proportion of foreign translators who chose “disagree”.

Table 2 Learning outcome desired by foreign translators (n = 80)

Questionnaire item	Mean	Standard deviation	Disagree	Agree
Improve overall foreign translation level	4.55	0.78	3.8	93.8
Increase interest in learning foreign translation	4.19	0.98	5.0	77.5
More confidence in foreign translation learning	4.36	0.80	2.5	85.0
Understand the basic concepts of foreign translation	4.43	0.79	2.5	90.0
Learning-related foreign translation theories	4.30	0.88	3.8	87.5
Learn related foreign translation skills	4.44	0.78	2.5	91.3
Expand the vocabulary of foreign translation	4.38	0.88	3.8	88.8
Improve the ability of foreign translation reading	4.34	0.78	1.3	87.5
Improve the ability of foreign translation grammar	4.13	0.92	7.5	78.8
Improve the ability of foreign translation writing	3.85	1.04	7.5	63.8
Improve the ability of foreign translation verbal reporting	3.64	0.93	7.5	48.8

Note: ** Chi-square test $p < 0.01$.

3) 4.5.3 Teaching Method

Table 3 shows the data on teaching methods. The data in the Table shows that the foreign translators have relatively low recognition of the traditional translation teaching methods based on teacher teaching. They do not expect the teachers to mainly teach translation skills in the classroom ($M = 3.28$, $SD = 0.95$). The chi-square test for these two projects further illustrates this point ($M = 3.39$, $SD = 1.02$). Foreign translators hope to organize some group discussions in the classroom to further enhance the understanding of translation theory and practical problems ($M = 3.56$, $SD = 0.98$). Meanwhile, foreign translators also expect to read through the extracurricular translation practice

($M = 3.98$, $SD = 0.83$) and extracurricular translation works. Homework ($M = 3.84$, $SD = 0.80$) to improve understanding of translation; finally, foreign translators also expect to participate in translation projects to further understand the application of translation in real life ($M = 3.56$, $SD = 1.05$). In summary, foreign translators hope that through these activities, they can genuinely improve their ability to explain translation phenomena and the level of translation practice.

Table 3 Teaching methods (n = 80)

Questionnaire item	Mean	Standard deviation	Disagree	Agree
Expect to participate in group discussions frequently	3.6	0.96	13.8	65.0
Increase understanding of translation through group discussions	3.56	0.98	11.3	66.3
Increase learning interest through group discussions	3.54	1.00	12.5	57.5
Classroom-based on teachers teaching translation skills	3.28	0.95	15.0	37.5
Teachers are the center of translation classroom	3.39	1.02	21.3	52.5
More extracurricular translation exercises can be arranged	3.98	0.83	5.0	78.8
More extracurricular translation works reading can be arranged	3.84	0.80	6.3	75.0
Improve translation level through extracurricular reading	3.86	0.92	6.3	73.8
Improve the interest in learning through extracurricular reading	3.70	0.99	10.0	66.3
Work with classmates to complete the translation project	3.56	1.05	12.5	53.8
Improve translation level through projects	3.83	0.85	6.3	70.0

Note: **Chi-square test

5. CONCLUSIONS

This paper introduces the strategy of cultural translation of the Chinese Winter Olympic Games based on the design model of basic language translation. Taking the cultural translation of the Chinese Winter Olympic Games as an example, it expounds and

analyses the reform process of the translation, including the analysis of the needs and environment, the setting of goals, the selection of teaching content and method and the determination of evaluation method. The college foreign language translation strategy has been widely applied in teaching practice, which has not only improved the quality of classroom teaching but also helped teachers expand their teaching ideas and update their teaching concepts. It should be emphasized that foreign translation construction is not static but always in a dynamic process. Colleges and universities should follow the language teaching and learning rules according to the school orientation and talent cultivation objectives and construct the college English translation that can reflect the school characteristics and dynamic, open, scientific and reasonable college English translation, to meet the diverse needs of foreign translators and the talent cultivation goals of the state, society and school in different periods.

II. REFERENCES

- [1] Palmer-Green, D. , & Elliott, N.. (2015). Sports injury and illness epidemiology: great britain olympic team (teamgb) surveillance during the sochi 2014 winter olympic games. *British Journal of Sports Medicine*, 49(1) , 25-29.
- [2] Selge, C. , Thomas, S. , Nowak, D. , Radon, K. , & Wolfarth, B.. (2016). Asthma prevalence in german olympic athletes: a comparison of winter and summer sport disciplines. *Respiratory Medicine*, 118, 15-21.
- [3] Gardy, J. L. , Naus, M. , Amlani, A. , Chung, W. , Kim, H. , & Tan, M. (2015). Whole-genome sequencing of measles virus genotypes h1 and d8 during outbreaks of infection following the 2010 olympic winter games reveals viral transmission routes. *Journal of Infectious Diseases*, 212(10) , 1574-1578.
- [4] Fan, Y. X. , Mcphie, P. , & Miles, E. W.. (2015). Cross cultural communication and miscommunication through connotation usage in translation: the case of two african classics in translation. *Atmospheric Environment*, 105(4) , 97-108.
- [5] Kiktev, D. , Joe, P. , Isaac, G. A. , Montani, A. , Frogner, I. L. , & Nurmi, P. , et al. (2016). Frost-2014: the sochi winter Olympic Games international project. *Bulletin of the American Meteorological Society*, 98(9) , 1908–1929.
- [6] Radulovic, F. , García-Castro, Raúl, & Gómez-Pérez, Asunción. (2015). Semquare — an extension of the square quality model for the evaluation of semantic technologies. *Computer Standards & Interfaces*, 38, 101-112.
- [7] Rosique Contreras, F. , Alvarez, B. , Sanchez, P. , & Pastor, J. A.. (2016). U-dsl: a domain specific language for ubiquitous systems. *IEEE Latin America Transactions*, 14(10) , 4416-4420.
- [8] Echeverry-Correa, J. D. , Ferreiros-López, J., Coucheiro-Limeres, A. , Córdoba, R., & Montero, J. M.. (2015). Topic identification techniques applied to dynamic language model adaptation for automatic speech recognition. *Expert Systems with Applications*, 42(1) , 101-112.
- [9] Chen, Y. , Huang, Z. , & Shi, X.. (2016). An snn-based semantic role labeling model with its network parameters optimized using an improved pso algorithm. *Neural Processing Letters*, 44(1) , 245-263.
- [10] Dolores Molina-González, M., Martínez-Cámara, Eugenio, Teresa Martín-Valdivia, M., & Alfonso Ureña-López, L. (2015). A spanish semantic orientation approach to domain adaptation for polarity classification. *Information Processing & Management*, 51(4) , 520-531.

- [11] Kuo, C. L. , & Hong, J. H.. (2015). Interoperable cross-domain semantic and geospatial framework for automatic change detection. *Computers & Geosciences*, S0098300415300765.
- [12] Mario Andrés Paredes-Valverde, Rafael Valencia-García, Miguel Ángel Rodríguez-García, Colomo-Palacios, R. , & Giner Alor-Hernández. (2015). A semantic-based approach for querying linked data using natural language. *Journal of Information Science*, 42(6) , 851-862.
- [13] Zhang, B. W. , & Yin, X. C.. (2017). Ssdm2: a two-stage semantic sequential dependence model framework for biomedical question answering. *Cognitive Computation*, 10(1) , 1-11.
- [14] Colvin, R. J. , Hayes, I. J. , & Meinicke, L. A.. (2016). Designing a semantic model for a wide-spectrum language with concurrency. *Formal Aspects of Computing*, 1-23.
- [15] Rosique Contreras, F. , Alvarez, B. , Sanchez, P. , & Pastor, J. A.. (2016). U-dsl: a domain specific language for ubiquitous systems. *IEEE Latin America Transactions*, 14(10) , 4416-4420.