

Research on the Quality Evaluation System of First-Class Talents Training based on the Background of “Double First-Class” Construction

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Key words: Double First-Class, First-class talents, Evaluation system construction

Abstract: The construction of “Double First-Class” is a Chinese strategy in line with the development trend of the world's higher education. In the “Double First-Class” construction plan, the state highlights the core position of talent training and plans to cultivate top-notch first-class talents. The cultivation of first-class talents is inseparable from the construction of talent cultivation quality evaluation system. Therefore, it is of great significance to design a reasonable first-class talent training quality evaluation system for improving the quality of first-class talent training and accelerating the development of “Double First-Class” strategy. Based on the background of “Double First-Class” construction and taking the graduate students of Dalian University as an example, this paper first collects data through questionnaire survey, and constructs a set of first-class graduate training quality evaluation system by factor analysis method. Then, based on the evaluation system, this paper evaluates the first-class graduate training quality of Dalian University by using fuzzy comprehensive evaluation method, so as to find out the shortcomings of graduate training in Dalian University. Finally, the paper puts forward the countermeasures and suggestions to improve the quality of first-class graduate training in Dalian University, in order to provide reference for other universities.

1. Introduction

In December 2016, general secretary Xi Jinping stressed at the National Conference on Ideological and political work in Colleges and Universities: “Only universities that cultivate first-class talents can become world-class universities. To run China's colleges and universities well and build a world-class university, we must firmly grasp the core point of improving the ability of personnel training in an all-round way, so as to drive other work of colleges and universities.” It can be seen that the key to the construction of “Double First-Class” lies in the cultivation of first-class

talents. There is no clear definition of “first-class talents” in the existing research. According to the “Six excellences and One top-notch” plan version 2.0 launched by the Ministry of education, this paper defines first-class talents as excellent talents who have solid basic theoretical knowledge and experimental skills, good sense of social responsibility, innovation ability and humanities quality, strong practical ability, good comprehensive quality, and can master scientific thinking methods. Postgraduate education, as the main way to cultivate top-notch talents, has become an important fulcrum of the construction of “Double First-Class” universities. Establishing and improving the quality assurance evaluation system of postgraduate education is an important step in the cultivation of postgraduate talents under the background of “Double First-Class”. However, compared with developed countries, the quality evaluation system of postgraduate education in China is still not perfect. Therefore, how to build a first-class talent training quality evaluation system has become an urgent problem to be solved.

There are many research perspectives on the quality evaluation of talent cultivation by existing scholars. For example, Shen Aiqin (2008) proposed that the direction of talent cultivation in the 21st century should develop in five aspects: essence, quality, quality, potential and temperament, and combine quality education with these five aspects to cultivate talents; Xie Weiqun et al. (2019) based on Maslow's hierarchy of needs model, constructed the quality evaluation system of innovation and entrepreneurship talents training, in order to improve the ability of colleges and universities to cultivate innovative talents. Zhang Dongming et al. (2020) believed that the quality evaluation of graduate education should be conducted from the perspective of stakeholders such as school conditions, student development and teaching staff. From the existing literature, there are few empirical research and quantitative analysis on the quality evaluation system of talent cultivation, so that they lack of data support and persuasion. Therefore, this paper uses factor analysis and fuzzy comprehensive evaluation method to construct a set of first-class graduate training quality evaluation system from the perspective of qualitative and quantitative, and makes a fuzzy evaluation on the quality of first-class graduate training in Dalian University, in order to provide reference for the development of graduate education reform in Dalian University and for the cultivation of graduate talents in China.

2. Construction of Quality Evaluation System of First Class Talents Training under the Background of “Double First-Class” Construction

2.1. Basic Principles of Evaluation Index System Construction

According to the goal of first-class talents training, this paper holds that the construction of the quality evaluation system of first-class talents training should follow the principles of combining science and practicality, system and leading, guiding and operability, qualitative and quantitative. Based on the analysis of the current situation of the research on the quality evaluation system of talent cultivation, a variety of factors are integrated to extract the indicators in line with the status quo of first-class talent training quality evaluation, and constructs a set of quality evaluation system of first-class talent cultivation under the background of “Double First-Class” construction.

2.2. Construction Method of Evaluation Index System

At present, the main methods to establish the evaluation index system are frequency statistics, theoretical analysis and expert consultation. The frequency statistics method is mainly used to count the frequency of the current research reports and papers on the quality evaluation of talent cultivation, and select the indicators that are used more frequently; the theoretical analysis method is to analyze and compare the connotation and characteristics of first-class talents and talent cultivation quality, then select some representative evaluation indicators; the expert consultation method is to adjust the evaluation index by consulting the relevant experts when necessary in the process of constructing the first-class talent cultivation evaluation system. Based on the above three index system construction methods, this paper establishes the first-class talent training quality evaluation system.

2.3. Construction of Evaluation Index

The construction process of first-class talent training quality evaluation system is relatively complex, which involves the selection of relevant indicators and the determination of weight. This part first selects the evaluation indicators. On the basis of combing the literature related to the quality evaluation of first-class graduate training, combined with the connotation and characteristics of first-class talents, and according to the basic principles of the construction of the evaluation index system, this paper establishes 30 three-level evaluation indexes from the four perspectives of students, teachers, schools and employers, and these four perspectives are designated as the first level evaluation indexes, which are named “Student development”, “Teaching staff”, “School resources” and “Social satisfaction”. The specific indexes are shown in Table 1.

Table 1: Third level indexes

First level indexes	Third level indexes
Student development	Average scores of undergraduate degree courses, Average scores of postgraduate courses, Proportion of students recruited from key universities, Initial employment rate of fresh graduates, Average number of papers published by students in journals above core journals (including core journals), Average number of students participating in scientific research projects above municipal level, Ratio of fresh graduates going to higher education or going abroad, Success rate of starting a business within 5 years after graduation, Passing rate of thesis blind review
Teaching staff	Average number of papers published by teachers in journals above core journals (including core journals) within 5 years, Average number of teachers participating in scientific research projects above municipal level within 5 years, Professional ethics of tutors, Academic influence of tutors, Proportion of positive and high professional titles among tutors, Proportion of doctoral degrees among tutors, Proportion of tutors who won the award of scientific research achievements within 5 years
School resources	Talent training objectives, Training mode, Study style construction, Academic credit, Library database information resources, Scientific research experiment platform, Layout of disciplines and specialties, Academic exchange frequency
Social satisfaction	Evaluation of graduates by employers, Passing rate of CET-6, Practice times per student in school, Salary and promotion, Career planning and development guidance,

	Employment rate of jobs involved in this major
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In order to determine the second level indexes and construct the first-class talent training evaluation system, this paper designs the questionnaire survey of the first-class talent training quality evaluation index. The questionnaire was distributed to students, teachers, teaching administrators and employers through the network platform. A total of 300 questionnaires were distributed and 258 questionnaires were collected. The recovery rate was 86%, and statistical data was valid.

Firstly, we need to test the reliability and validity of the collected data, and the validity is tested by kmo and Bartlett. Reliability represents the consistency and stability of the questionnaire data. The higher the Cronbach's α value, the higher the reliability of the data. This questionnaire Cronbach's $\alpha = 0.733 > 0.7$, with good reliability. Validity represents the correctness and validity of the questionnaire data. The higher the KMO value, the higher the validity of the data. This questionnaire KMO = 0,750 > 0.7, the validity is good, and the questionnaire significance is less than 0.05, indicating that the questionnaire data is suitable for factor analysis.

Then the factor analysis method is used to analyze, combined with the eigenvalue and cumulative contribution rate of the data, 10 factors are extracted, and the original 30 third level indicators are reduced to 10 second level indexes, the cumulative contribution rate is 88.431%, which can reflect all the information more comprehensively. Through soliciting experts' opinions, this paper takes 10 factors as second level indexes, which are respectively named as "Students' academic ability", "Tutor's academic ability", "Career development demand", "Overall level of teachers", "Training plan", "School resources", "Quality of talent output", "Discipline construction", "Social performance" and "Quality of student source". According to these potential variables, we can more clearly evaluate the quality of first-class graduate talents training from ten aspects. To sum up, this paper constructs a third level evaluation indexes for the first-class talent training quality evaluation system under the background of "Double First-Class" construction, as shown in the table 2.

Table 2: Quality evaluation system of first-class talents cultivation under the background of "Double First-Class" construction

First level indexes	Weight	Second level indexes	Weight	Third level indexes	Weight
A1 Student development	0.3018	B1 Quality of talent output	0.3183	C1 Initial employment rate of fresh graduates	0.3324
				C2 Ratio of fresh graduates going to higher education or going abroad	0.3334
				C3 Success rate of starting a business within 5 years after graduation	0.3342
		B2 Quality of student source	0.2289	C4 Proportion of students recruited from key universities	0.4995

				C5 Average scores of undergraduate degree courses	0.5005
		B3 Students' academic ability	0.4528	C6 Average number of papers published by students in journals above core journals (including core journals)	0.2549
				C7 Passing rate of thesis blind review	0.2461
				C8 Average number of students participating in scientific research projects above municipal level	0.2503
				C9 Average scores of postgraduate courses	0.2487
A2 Teaching staff	0.2338	B4 Overall level of teachers	0.4544	C10 Proportion of positive and high professional titles among tutors	0.3301
				C11 Professional ethics of tutors	0.3370
				C12 Proportion of doctoral degrees among tutors	0.3329
		B5 Tutor's academic ability	0.5456	C13 Average number of papers published by teachers in journals above core journals (including core journals) within 5 years	0.2442
				C14 Average number of teachers participating in scientific research projects above municipal level within 5 years	0.2567
				C15 Academic influence of tutors	0.2484
				C16 Proportion of tutors who won the award of scientific research achievements within 5 years	0.2507
A3 School resources	0.2742	B6 Discipline construction	0.2608	C17 Layout of disciplines and specialties	0.4990
				C18 Study style construction	0.5010
		B7 Training plan	0.3761	C19 Talent training objectives	0.3335
				C20 Academic credit	0.3349
				C21 Training mode	0.3316
		B8 School resources	0.3631	C22 Academic exchange frequency	0.3249
				C23 Library database information resources	0.3368
				C24 Scientific research experiment	0.3382

				platform	
A4 Social satisfaction	0.1902	B9 Career development demand	0.6350	C25 Employment rate of jobs involved in this major	0.2541
				C26 Passing rate of CET-6	0.2579
				C27 Practice times per student in school	0.2527
				C28 Career planning and development guidance	0.2353
		B10 Social performance	0.3650	C29 Evaluation of graduates by employers	0.4963
				C30 Salary and promotion	0.5037

2.4. Determination of Evaluation Index Weight

Weight is the relative importance of indicators in the overall evaluation. In this paper, factor analysis is used to objectively weight the indicators, which makes the evaluation results more scientific, objective and reliable.

2.4.1. Determination of Third Level Indexes Weight

Factor load is the correlation coefficient between variables and factors, which reflects the degree of correlation between variables and factors. The greater the load, the stronger the correlation between variables and factors, the greater the contribution to factors, and the greater the weight should be given. Therefore, the third level indexes weight can be determined by the factor load of each variable.

According to the analysis of the rotated component matrix, the loads of C1, C2 and C3, which reflect the second level index B1 (common factor 7), are 0.911, 0.914 and 0.916, that is,

$$\text{Factor7} = 0.911 \times C1 + 0.914 \times C2 + 0.916 \times C3.$$

After normalization, the weight set $\alpha_1 = (0.3324, 0.3334, 0.3342)$ of talent quality of second level index B1 can be obtained, that is, the corresponding weights of indexes C1, C2, C3 are 0.3324, 0.3334, 0.3342 respectively.

Similarly, the weight sets of the other nine common factors are:

$$\alpha_2 = (0.4995, 0.5005)$$

$$\alpha_3 = (0.2549, 0.2461, 0.2503, 0.2487)$$

$$\alpha_4 = (0.3301, 0.3370, 0.3329)$$

$$\alpha_5 = (0.2442, 0.2567, 0.2484, 0.2507)$$

$$\alpha_6 = (0.4990, 0.5010)$$

$$\alpha_7 = (0.3335, 0.3349, 0.3316)$$

$$\alpha_8 = (0.3249, 0.3368, 0.3382)$$

$$\alpha_9 = (0.2541, 0.2579, 0.2527, 0.2353)$$

$$\alpha_{10} = (0.4963, 0.5037)$$

then the weight of the corresponding third level indexes can be obtained, as shown in Table 2.

2.4.2. Determination of Second Level Indexes Weight

Variance contribution rate refers to the proportion of variation caused by a single factor in the total variation, indicating the influence of the common factor on the dependent variable. Therefore, the weight of second level indexes can be determined according to the variance contribution rate after maximum variance rotation.

Through the analysis, the corresponding variance contribution rates of the second level indexes of “Quality of talent output”, “Quality of student source” and “Students' academic ability” are 0.08494, 0.06108 and 0.12084, and the normalized weights set are (0.3183, 0.2289, 0.4528). Similarly, the weights set of “Overall level of teachers” and “Tutor's academic ability” are (0.4544, 0.5456), the weights set of “Discipline construction”, “Training plan” and “School resources” are (0.2608, 0.3761, 0.3631), and the weights set of “Career development demand” and “Social performance” are (0.6350, 0.3650). The weight of corresponding second level indexes can be obtained, as shown in Table 2.

2.4.3. Determination of First Level Indexes Weight

The weight of the first level indexes is also calculated according to the variance contribution rate after the maximum variance rotation. The weight of the “Student development” is calculated as follows:

$$(0.08494 + 0.06108 + 0.12084) \div 0.88431 = 0.3018,$$

the weight of “Teaching staff” is calculated as follows:

$$(0.09393 + 0.11278) \div 0.88431 = 0.2338,$$

the weight of the “School resources” is calculated as follows:

$$(0.06324 + 0.09122 + 0.08805) \div 0.88431 = 0.2742,$$

and the weight of the “Social satisfaction” is calculated as follows:

$$(0.10683 + 0.06141) \div 0.88431 = 0.1902,$$

as shown in Table 2.

3. Practical Application of Evaluation System

At present, Dalian University takes the “Double First-Class” construction of the Ministry of education as an opportunity to enter a new development stage of accelerating the cultivation of first-class graduate students. Taking Dalian University as the object of evaluation, this paper makes

a comprehensive evaluation on the quality of its first-class postgraduate training, and divides the evaluation grades into better, good, general, bad and worse, so as to show the degree of the quality of Dalian University's first-class postgraduate training. In order to measure the evaluation results reliably, this paper uses the fuzzy comprehensive evaluation method to invite 40 experts from Dalian University and related universities to rate each index of the evaluation system according to the actual situation of Dalian University. The results are shown in Table 3 by normalizing the collected evaluation data.

Table 3: Summary of questionnaire survey on the quality of first-class postgraduate training in Dalian University

Weights of first level indexes	Weights of second level indexes	Weights of third level indexes	better	good	general	bad	worse
0.3018	0.3183	0.3324	0.75	0.25	0	0	0
		0.3334	0	0	0.85	0.10	0.05
		0.3342	0	0	0.10	0.75	0.15
	0.2289	0.4995	0	0	0.65	0.35	0
		0.5005	0.25	0.65	0.10	0	0
	0.4528	0.2549	0	0.05	0.65	0.30	0
		0.2461	1.00	0	0	0	0
		0.2503	0	0.35	0.65	0	0
		0.2487	0.10	0.90	0	0	0
	0.2338	0.4544	0.3301	0	0.65	0.35	0
0.3370			1.00	0	0	0	0
0.3329			0.85	0.15	0	0	0
0.5456		0.2442	0	0.25	0.75	0	0
		0.2567	0.15	0.75	0.10	0	0
		0.2484	0	0.15	0.75	0.10	0
		0.2507	0	0	0.85	0.15	0
0.2742	0.2608	0.4990	0.65	0.35	0	0	0
		0.5010	0.25	0.75	0	0	0
	0.3761	0.3335	0	0.25	0.50	0.25	0
		0.3349	0.65	0.35	0	0	0
		0.3316	0	0.65	0.35	0	0

	0.3631	0.3249	0	0	0.25	0.75	0
		0.3368	0	0.05	0.70	0.25	0
		0.3382	0	0	0.10	0.65	0.25
0.1902	0.6350	0.2541	0.35	0.45	0.20	0	0
		0.2579	0	0.75	0.25	0	0
		0.2527	0	0	0.25	0.75	0
		0.2353	0	0	0.20	0.65	0.15
	0.3650	0.4963	0.95	0.05	0	0	0
		0.5037	0	0.65	0.35	0	0

Firstly, the comprehensive evaluation results of second level indexes are calculated. Taking “Quality of talent output” B1 as an example, It can be seen from the above table that the fuzzy matrix of B1 is as follows:

$$R_{B1} = \begin{bmatrix} 0.75 & 0.25 & 0 & 0 & 0 \\ 0 & 0 & 0.85 & 0.10 & 0.05 \\ 0 & 0 & 0.10 & 0.75 & 0.15 \end{bmatrix},$$

the weight matrix of B1 corresponding to the third level indexes is as follows:

$$V_{B1} = [0.3324 \quad 0.3334 \quad 0.3342].$$

Therefore, the comprehensive evaluation result of B1 is as follows:

$$W_{B1} = V_{B1} \times R_{B1} = [0.249 \quad 0.083 \quad 0.317 \quad 0.284 \quad 0.067].$$

Similarly, the comprehensive evaluation results of other second level indexes are W_{B2} , W_{B3} , W_{B4} , W_{B5} , W_{B6} , W_{B7} , W_{B8} , W_{B9} , W_{B10} .

Then the comprehensive evaluation results of the first level indicators are calculated. Taking “Student development” A1 as an example, the fuzzy matrix is composed of W_{B1} , W_{B2} , W_{B3} composition, that is,

$$R_{A1} = \begin{bmatrix} 0.249 & 0.083 & 0.317 & 0.284 & 0.067 \\ 0.125 & 0.325 & 0.375 & 0.175 & 0 \\ 0.271 & 0.324 & 0.328 & 0.076 & 0 \end{bmatrix},$$

the weight matrix of A1 corresponding to second level indexes is as follows:

$$V_{A1} = [0.3183 \quad 0.2289 \quad 0.4528].$$

Therefore, the comprehensive evaluation results of A1 are as follows:

$$W_{A1} = V_{A1} \times R_{A1} = [0.231 \quad 0.248 \quad 0.335 \quad 0.165 \quad 0.021].$$

In the same way, the comprehensive evaluation results of other first level indexes can be obtained, as shown below:

$$W_{A2} = [0.303 \quad 0.279 \quad 0.384 \quad 0.034 \quad 0],$$

$$W_{A3} = [0.199 \quad 0.306 \quad 0.234 \quad 0.230 \quad 0.031],$$

$$W_{A4} = [0.229 \quad 0.324 \quad 0.208 \quad 0.217 \quad 0.022].$$

Thus the total fuzzy matrix is obtained, as shown below:

$$R = \begin{bmatrix} 0.231 & 0.248 & 0.335 & 0.165 & 0.021 \\ 0.303 & 0.279 & 0.384 & 0.034 & 0 \\ 0.199 & 0.306 & 0.234 & 0.230 & 0.031 \\ 0.229 & 0.324 & 0.208 & 0.217 & 0.022 \end{bmatrix}.$$

Finally, we calculate the overall comprehensive evaluation results, as shown below:

$$W = V \times R = [0.3018 \quad 0.2338 \quad 0.2742 \quad 0.1902] \times R = [0.239 \quad 0.286 \quad 0.295 \quad 0.162 \quad 0.019]$$

According to the maximum membership principle of fuzzy comprehensive evaluation method, the third number in W is the largest, so the quality of first-class graduate training in Dalian University belongs to the third category, that is, general.

Through the fuzzy evaluation of “Student development”, “Teaching staff”, “School resources” and “Social satisfaction”, it is found that the evaluation result of “student development” is general. Through in-depth analysis, it is found that this result is mainly due to the lack of the following indexes: “Ratio of fresh graduates going to higher education or going abroad”, “Success rate of starting a business within 5 years after graduation”, “Proportion of students recruited from key universities”, “Average number of papers published by students in journals above core journals (including core journals)” and “Average number of students participating in scientific research projects above municipal level”; The evaluation result of “Overall level of teachers” is better, but the quantitative result of “Teaching staff” is general. This is mainly due to the general evaluation of “Average number of papers published by teachers in journals above core journals (including core journals) within 5 years” “Academic influence of tutors” and “Proportion of tutors who won the award of scientific research achievements within 5 years”; The quantitative results of “School resources” is good, which is mainly due to the good evaluation results of the second level indexes of “Discipline construction” and “Training plan”, but there is still a lack of “Talent training objectives” in “Training plan”. The evaluation results of second level index of “school resources” is bad, which indicates that the school still needs to improve in the aspects of “Academic exchange frequency”, “Library database information resources” and “Scientific research experiment platform”; The evaluation result of “Social satisfaction” is good, but the quantitative results of third level indexes of “Practice times per student in school” and “Career planning and development guidance” are bad.

4. Suggestions on the Cultivation of First-class Graduate Students in Dalian University

Through the above analysis of the fuzzy comprehensive evaluation results of Dalian University's first-class postgraduate training quality, we can find that the current quality of Dalian University's first-class postgraduate training is general, and there are still some deficiencies in the training

process. Therefore, this paper puts forward the following suggestions to improve the quality of Dalian University's first-class postgraduate training and promote the reform of Dalian University's postgraduate education:

4.1. Based on the Results Oriented, Improve the School Personnel Training Objectives

The training goal of postgraduates is a normative document of the school training work, which has an important impact on the quality of postgraduate training. In addition to distinguishing the nature and characteristics of different disciplines to carry out targeted training for graduate students in different disciplines, schools should also combine the students' own academic arrangements to scientifically formulate training objectives, so as to "teach students in accordance with their aptitude". For the students who are determined to study for doctorate, the training goal is to improve their academic level, focusing on the cultivation of innovative thinking ability and scientific research ability, so as to provide support for their further development. For the students who choose to graduate and work, we should focus on the cultivation of their social practice ability while cultivating their scientific research ability, encourage students to participate in social practice activities and cultivate their practical ability. At the same time, combined with the needs of society, we should carry out career planning and development guidance for them regularly, train talents pertinently, and make sufficient preparations for students to graduate and enter the society.

4.2. Strengthening the Construction of Teaching Staff

The comprehensive quality of teaching staff has a great impact on the quality of postgraduate training. Strengthening the construction of teaching staff is one of the keys to the cultivation of first-class postgraduate talents. First of all, the school should formulate a strict tutor selection system, and employ tutors with real knowledge level and scientific research ability. Then, we should formulate and standardize the evaluation system after the appointment of tutors. The evaluation standard should not only include the scientific research achievements and academic ability of tutors, but also consider the quality of postgraduate students, so as to urge tutors to cultivate students better. For some tutors who have no scientific research achievements for a long time and fail to reach the standard of assessment, their tutor qualification should be cancelled in time and justly, and the "survival of the fittest" system should be implemented. At the same time, we should pay attention to the construction of the tutor's own quality, correct the tutor's academic attitude, and improve the tutor's moral cultivation, so as to strengthen the ideological exchange with students and establish a harmonious and friendly relationship between teachers and students.

4.3. Optimize the Enrollment System and Select Excellent Talents Scientifically

Research is the basic feature of postgraduate study, so postgraduate enrollment should admit students with high comprehensive quality, such as scientific research potential and innovative consciousness. To a certain extent, the results of the first examination are not consistent with their own quality and enrollment conditions. Therefore, the school should strengthen the examination of the second examination. On the one hand, we can appropriately increase the number of people who take part in the reexamination, expand the scope of choice, and avoid "low score and high energy"

students from losing the chance to enter the reexamination. On the other hand, we can appropriately increase the proportion of reexamination results, based on the principle of fairness and justice, standardize the reexamination assessment link, and select excellent and qualified talents, so as to ensure the effective improvement of postgraduate training efficiency after enrollment.

4.4. Strengthen the Cultivation of Students' Scientific Research and Innovation Ability

First class postgraduates should not only have solid professional knowledge, but also have excellent research and innovation ability. It is necessary to cultivate the innovative spirit of postgraduates and improve their scientific research ability. On the one hand, to carry out students' scientific research and innovation education requires that its teaching content is different from undergraduate teaching, and it should focus on teaching students the development frontier of their disciplines and specialties. This paper suggests that heuristic teaching methods, participation in discussion and trial teaching methods should be used to carry out methods, practice and interdisciplinary courses, so as to stimulate students' learning initiative, expand their knowledge, and cultivate their ability to put forward, analyze and solve problems. On the other hand, this paper suggests that tutors should give effective guidance to students, actively carry out scientific research training, and guide them to determine their own research interests and research directions. The combination of course learning and scientific research training can effectively improve students' innovative thinking and scientific research ability, which is a necessary way to improve the quality of students' scientific research achievements.

4.5. Improve the Training Conditions and Optimize the Training Environment

Excellent school conditions are an important guarantee for postgraduate education. Schools should actively improve the training conditions to provide support for the cultivation of first-class postgraduate talents. First, academic exchange activities such as multi-level and interdisciplinary academic forums and symposiums should be held regularly to activate students' thinking and broaden their horizons. At the same time, students should be required to think and summarize after academic exchanges to ensure the effectiveness of academic exchanges. Second, on the basis of soliciting students' opinions, students should optimize library database information resources to provide good conditions for graduate students' scientific research creation. Third, the university should build the necessary scientific research and innovation practice platform to maximize the requirements of students' scientific experiments, provide convenient conditions for students' scientific research, and cultivate first-class talents with strong practical operation ability.

5. Conclusion

Under the background of "double first-class" construction, the cultivation of first-class talents has become an important goal of higher education. The construction of the first-class talent training quality evaluation system not only provides training standards for postgraduate education, but also helps the education units to clearly understand the current situation and shortcomings of the first-class talent training quality, which is an effective way to promote the reform of postgraduate education and cultivate first-class talents. Based on the perspective of stakeholders, this paper

constructs a set of first-class talent training quality evaluation system from the four aspects of students, teachers, schools and employers, and makes an empirical study with Dalian University as an example, hoping to provide useful reference for other colleges to cultivate first-class graduate talents, so as to cultivate more outstanding talents.

Acknowledgements

This work was supported by a teaching reform project of Graduate School of Dalian University (Project No. 1018).

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