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THE CONSTRUCTION PATH OF FIRST-CLASS UNDERGRADUATE MAJORS IN LOCAL APPLICATION-ORIENTED UNIVERSITIES IN CHINA-- AN EMPIRICAL STUDY BASED ON STUDENT SATISFACTION EVALUATION

Yuan-kai Wang[1] Chuan-li Liu[2] Xu-qing Liu[3]

1.Education College, Shandong Women's University, 2399, Daxue Road, Jinan, Shandong P.R. China 250300

2.School of Educational Science, Hunan Normal University, 36, Lushan Road, Changsha, Hunan P.R. China 410081

3.Master of Early Childhood Education, Faculty of Art， Macquarie University, Balaclava Rd, Macquarie Park NSW 2109, Australia

* E-mail of the corresponding author: wyksdnzxy@gmail.com

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Abstract

Using the qualitative analysis software NVivo to code and analyze 16 authoritative and representative documents related to the construction standards of first-class undergraduate majors, and drawing lessons from the CIPP evaluation model, this paper constructs four dimensions, including professional background, professional investment, professional construction process and professional construction effect, covering the source of students The theoretical framework of the first-class undergraduate specialty construction index system with 8 first-class indicators such as specialty positioning and 17 second-class indicators and 55 third-class indicators. Based on this evaluation framework, the questionnaire on student satisfaction with first-class undergraduate specialty construction is compiled. The multivariate linear analysis model shows that the overall interpretability of the main factors affecting student satisfaction reaches 99.9%. The research shows that students are generally satisfied with the construction of first-class undergraduate majors in a Local Application-oriented University in China, have the highest satisfaction with the teaching staff and professional quality assurance, and have the lowest satisfaction with the professional school running conditions. There is a long way to go to improve students' satisfaction and promote the construction of first-class undergraduate majors in China's Local Application-oriented Universities. We should build a new three-dimensional development pattern of “one body, two wings and three integration” of discipline, curriculum, specialty and education; Build a new model of characteristic development in the “12345” period; Build a new first-class talent training system guided by “quality improvement”.

Keywords: *first-class undergraduate major; Student satisfaction; CIPP evaluation model; Multivariate linear model; Construction path*

1 INTRODUCTION

Promoting the classified evaluation of local colleges and universities in China, guiding the scientific positioning of different types of colleges and universities, and creating characteristics and levels are important contents of the reform of educational evaluation. Student satisfaction is an important index to measure the quality of college education. Through the relevant evaluation of the measurement of students' satisfaction, the evaluation content involves students' attitudes towards school curriculum, teacher-student interaction and communication, curriculum quality, learning environment, school facilities and services, talent training, students' development and so on. In higher education, student satisfaction is not only the result of students' learning process, but also the necessary condition for successful learning. It can be said that in the educational reform, one of the factors that encourage universities is student satisfaction. The concept of student satisfaction is the difference between students' expectations of their experiences in educational institutions and their perception of these experiences. Elliot and Healy believe that student satisfaction reflects students' short-term attitude towards the evaluation of their own educational experience and other aspects. The goal is to make all students who have completed the course satisfied with the strictness and fairness of the course, teacher-student interaction, peer interaction and support services. Sloan believes that student satisfaction is that students succeed in their learning experience and are satisfied with their experience. Education is a process of change. In this process, students' satisfaction with the education they receive and the school they attend is very important for the effective continuation of this process. The school hopes to evaluate the quality of various educational activities from the perspective of students through satisfaction survey, so as to provide basis for the school to improve education, teaching and management, so as to achieve the purpose of running a school with high quality and attracting students.

The “double ten thousand plan” for the construction of first-class undergraduate majors for all kinds of colleges and universities and all majors has brought new hopes and development opportunities to China's Local Application-oriented Colleges and Universities to build first-class universities, but at the same time, it also faces many challenges. To build a first-class university, talent training is the foundation, and undergraduate education is the root. Local Application-oriented Universities generally take undergraduate education as the main body, serve regional economic and social development and related industries as their own responsibility, and cultivate senior application-oriented talents with high comprehensive quality and practical ability that meet the needs of industry enterprises as the main purpose. China's local colleges and universities account for 90% of the overall colleges and universities. They are the main body of China's higher education. They shoulder the major task of cultivating socialist construction and successors, and play an important role in promoting the high-quality development of China's higher education. A first-class undergraduate course must be supported by a first-class major. The quality of first-class major construction is directly related to the quality of talent training and the level of running a university. The starting point and foothold of the construction of first-class undergraduate majors is to cultivate first-class professionals. To build a first-class undergraduate education, the concept, mode, mode and method of undergraduate education in Colleges and Universities will change. Student satisfaction is one of the important contents of undergraduate education evaluation. It is the most

direct evaluation of students' perception after participating in undergraduate education. The results of this evaluation have important reference value for evaluation leaders and stakeholders. Student satisfaction can not only reflect students' satisfaction with the overall learning and life experience of the school, but also reflect the level of the school to meet the needs of students' growth and development. It is another evaluation standard for the quality of running a university. Previous studies have also shown that there is a positive correlation between students' evaluation of education quality and satisfaction. Therefore, this study focuses on the analysis of students' satisfaction with the construction of first-class undergraduate majors and its influencing factors, hoping to provide empirical support for improving students' satisfaction, improving students' training quality and improving the construction quality of first-class undergraduate majors from the perspective of students' satisfaction.

2 RESEARCH DESIGN

2.1 Theoretical framework

The construction of first-class undergraduate specialty is the only way for the development of Application-oriented Colleges and Universities, the basis of application-oriented talent training, and the key to improve the quality of application-oriented talent training. To cultivate first-class professionals and produce first-class achievements, we must take the construction of first-class majors as the support. The construction of first-class undergraduate majors should adhere to the principle of combining unity and particularity. It should not only comply with the top-level system design of the state on the construction and development of undergraduate majors, but also closely conform to the reality of the hierarchical and classified development of majors in local colleges and universities. In order to improve the research efficiency and make a more targeted content analysis of the first-class undergraduate specialty construction indicators, this study selects 9 authoritative and representative national and local policy documents and 7 domestic index documents as the content coding source of the first-class undergraduate specialty construction index system, and uses the qualitative analysis software NVivo as the analysis tool to summarize, code, analyze and summarize through open coding The three data analysis stages of spindle coding and selective coding are completed. In the open coding stage, all indicators in 16 sample data are coded one by one, forming 232 codes in total.

Spindle coding integrates the same or similar contents into a group to produce some kinds. For example, “professional student teacher ratio”, “basic information of teachers”, “number and structure of professional teachers”, “teacher development”and “incentive mechanism”are classified into one category and named “Teacher Allocation and development”. On this basis, through selective coding, we summarize again, and finally get 8 primary key nodes, 17 secondary key nodes and 55 tertiary key nodes. (As shown in Table 1) This study draws on the CIPP evaluation model established by Stuffebeam as the evaluation framework. Its basic view is that “the most important purpose of evaluation is not to prove, but to improve”. As an internationally influential and widely applicable evaluation theoretical framework, CIPP evaluation model helps to reflect the supply and demand changes, internal driving force, development process and development achievements of preschool education under a specific cultural background. CIPP evaluation model consists of four

elements: Context evaluation, Input evaluation, Process evaluation and Product evaluation. The characteristics of CIPP evaluation model are obvious, that is, the selection of objectives is realized through background evaluation, the revision of research plan is promoted through input evaluation, the guidance and implementation of methods are realized through process evaluation, and the reference standard is provided through result evaluation. Taking the CIPP evaluation model as the overall framework, according to and combined with the structural elements of the first-class undergraduate specialty construction system, this paper constructs the first-class undergraduate specialty construction evaluation model mainly from four main dimensions: Professional background, Professional investment, Professional construction process and Professional construction effect. The first-class undergraduate specialty construction index system mainly includes 4 dimensions, 8 first-class indexes, 17 second-class indexes and 55 third-class indexes. The details are as follows.

2.1.1 Indicators of professional background dimension

The dimension of "professional background" can be divided into two primary indicators: "student source situation" and "professional orientation". The "student source situation" includes a secondary indicator of "student source quality", and the "professional orientation" includes three secondary indicators of "professional history", "professional characteristics" and "service orientation".

2.1.2 Indicators of professional investment dimension

The dimension of "professional investment" can be divided into two primary indicators: "professional school running conditions" and "professional resource allocation". The "professional school running conditions" includes three secondary indicators: "curriculum system", "textbook construction" and "practical teaching". The "professional resource allocation" includes two secondary indicators: "professional resources" and "professional management".

2.1.3 Indicators of professional construction process dimension

The dimension of "professional construction process" can be divided into two primary indicators: "teaching staff" and "professional quality assurance". The "Teaching staff" includes two secondary indicators: "Teacher Allocation and development" and "comprehensive ability and teaching level". The "professional quality assurance" includes two secondary indicators: "quality assurance" and "continuous improvement".

2.1.4 Indicators of the Professional construction achievements

The dimension of "Professional construction achievements" can be divided into two first-class indicators: "talent training orientation" and "student development". "Talent training orientation" includes two secondary indicators of "Training objectives and programs" and "training mode", and "student development" includes two secondary indicators of "student guidance" and "student training".

Table 1 structural framework of first-class undergraduate specialty construction

Primary node	Secondary node	Tertiary node
Source of students	Quality of students	Place of origin； family education background； enrollment
Major orientation	Major history	Major construction; Major evolution; Major development
	Major features	Major characteristic； Major advantage
	Service oriented	Serving students； service industry； service area； service place
School running conditions of Major	Curriculum system	Course offered；Syllabus；Content of courses
	Textbook construction	Planning the construction and selection of teaching materials； Construction of teaching materials； Textbook update
	Practical teaching	Practice link arrangement；Proportion of practical teaching ； Laboratory and practice base construction
Resource allocation in Major	Major resources	Major funds ； Teaching facilities ； Public infrastructure ； Book information ； Digital resources
	Major management	Management mechanism ； Responsibility system ； operating mechanism ； Safeguard mechanism
Teaching staff	Faculty allocation and development	Number of professional teachers； Professional teacher structure；Student teacher ratio；Teacher development；Excitation mechanism
	Comprehensive ability and teaching leve	Teaching ability； Academic level； Scientific research ability；Information technology capability

Quality assurance of Major	Quality assurance	Quality standards； Quality monitoring； Quality evaluation
	Continuous improvement	Safeguard mechanism； Improvement measures
Talent training orientation	Training objectives and programs	Target location ； Target connotation ； Target evaluation； Scheme formulation and revision
	Training mode	Reform and innovation of training mode； Industry-university Research Collaborative education
Student development	Student guidance	Student needs ； Student management ； Student services
	Student cultivation	Mold high morals and cultivate talents； Academic monitoring； Student achievement

2.2 Selection and measurement of variables

Student satisfaction is an important dimension and index reflecting the construction of first-class undergraduate majors. Carrying out student satisfaction survey is of great significance to improve the quality of first-class undergraduate majors and promote the high-quality development of undergraduate education. This study established a basic framework and initial dimension of measurement, and self-made the survey tool *"first-class undergraduate specialty construction student satisfaction questionnaire"*. The questionnaire is divided into two parts: the first part requires students to answer basic information, including gender, class, place of origin, family education, and their understanding of the history and characteristics of their major. The second part can be started only after filling in the basic information and understanding the major; The second part is the satisfaction survey, which requires students to score the satisfaction of each question option. The score adopts Likert's five-point score, and the satisfaction rises from 1-5 points (very dissatisfied = 1; relatively dissatisfied = 2; general = 3; relatively satisfied = 4; very satisfied = 5). The questionnaire divides the student satisfaction survey into three dimensions: the overall satisfaction with professional investment (including professional school running conditions and professional resource allocation), the overall satisfaction with the process of professional construction (including teachers and professional quality assurance), and the overall satisfaction with the effectiveness of professional construction (including talent training orientation and student Development). According to the survey, As shown in Table 2， the Cronbach coefficient of the whole questionnaire and its dimensions are greater than 0.9, indicating that the overall reliability of the questionnaire and the test results of each dimension are very good.

Table 2 overall reliability coefficient of the questionnaire and each dimension

	Professional investment	Professional construction process	Professional construction achievements	The whole questionnaire
Cronbach's alpha	0.977	0.984	0.958	0.989

In order to construct variables such as professional school running conditions, factor analysis should be carried out on the survey data. Firstly, kmo test and Bartlett spherical test are carried out to judge whether the corresponding measurement problems can be subject to factor analysis. Kmo coefficient stipulates that kmo coefficient above 0.9 is very suitable for factor analysis. The analysis results of this study show that the kmo value is 0.982, and the Bartlett spherical test is significant, indicating that it is very suitable for factor analysis.

According to the theory of psychologist Tuker, a good questionnaire structure requires the correlation coefficient between each dimension and the total score of the test to be between 0.3-0.8, and the correlation coefficient between each dimension to be between 0.1-0.6. Therefore, the correlation coefficient between each dimension and the total score and the correlation coefficient between each dimension are used to estimate the structural validity of the questionnaire. The data analysis results in Table 3 show that the correlation coefficient between the total score and each dimension is between 0.912-0.980, and the correlation coefficient of each dimension is between 0.820-0.981, indicating that the self-made "*questionnaire on student satisfaction with the construction of first-class undergraduate majors"* has good structural validity. To sum up, this questionnaire has good reliability and structural validity, is suitable for questionnaire survey, and is expected to produce correct scientific results.

2.3 Research object

Shandong women's University is a Local Application-oriented University in Shandong Province, China. Its preschool education specialty was founded in 1988. It was approved as a first-class undergraduate specialty construction site in Shandong Province in 2019 and a national first-class undergraduate specialty construction site in 2021.

This study selected four grades of preschool education undergraduates from freshman to senior (2017-2020) of Shandong women's University as the survey object. The questionnaire was randomly distributed through the questionnaire star, a total of 780 questionnaires were distributed, and 710 valid questionnaires were recovered, with a recovery rate of 91%.

Table 3 structural validity coefficient of questionnaire

	M ± SD	1	2	3	4	5	6	7	8	9	10

1. Total score of student satisfaction	4.01 ± 0.72	1							
2.Professional investment	3.94 ± 0.75	0.980**	1						
3.Professional school running conditions	3.93 ± 0.78	0.941**	0.972**	1					
4.Allocation of professional resources	3.94 ± 0.76	0.963**	0.971**	0.886**	1				
5.Professional construction process	4.10 ± 0.74	0.968**	0.904**	0.853**	0.903**	1			
6.Teaching staff	4.10 ± 0.74	0.964**	0.904**	0.854**	0.902**	0.980**	1		
7.Professional quality assurance	4.10 ± 0.76	0.936**	0.871**	0.821**	0.871**	0.981**	0.924**	1	
8.Professional construction	4.08 ± 0.77	0.943**	0.888**	0.846**	0.880**	0.935**	0.914**	0.921**	1

achievements											
9.Talent training orientation	4.11 ± 0.77	0.925**	0.864**	0.820**	0.859**	0.931**	0.907**	0.920**	0.972**	1	
10.Student development	4.05 ± 0.81	0.912**	0.866**	0.827**	0.855**	0.892**	0.873**	0.876**	0.975**	0.896**	1

Note: * * P < 0.01 (the same below)

3 RESEARCH RESULTS AND CONCLUSIONS

3.1 Student satisfaction analysis

3.1.1 Overall analysis of student satisfaction

Table 4 shows the descriptive statistical analysis results of student satisfaction. The average score of student satisfaction is 4.01, which shows that for the construction of a first-class undergraduate major in preschool education in a local university, student satisfaction is at a relatively satisfactory level, and its satisfaction level still needs to be improved.

As shown in Table 5, 58.17% of the students have a higher than average student satisfaction score, and 98 students have the highest average score of 5; There are 41.83% of students whose student satisfaction score is lower than the average, and there are 2 students with the lowest average score of 1. It can be concluded here that there is a polarization in the satisfaction of students in the construction of first-class undergraduate majors in preschool education in local colleges and universities.

Table 4 total score of student satisfaction

	N	M	SD	SE
student satisfaction	710	4.01	0.72	0.027
Professional investment	710	3.94	0.75	0.028
Professional construction process	710	4.10	0.74	0.027
Professional construction achievements	710	4.08	0.77	0.028

Table 5 percentage of student satisfaction scores

M=4.01	N	percentage
≥4.01	413	58.17
<4.01	297	41.83

3.1.2 Analysis of students' satisfaction with professional investment

As shown in Table 6, the average score of students' satisfactions with professional investment is 3.94, which tends to be more satisfactory. The standard deviation is 0.75, indicating that there is a significant difference in students' satisfaction with professional investment. This part examines the satisfaction of students with professional school running conditions and the satisfaction of students with professional resource allocation. Among them, the satisfaction of students with professional school running conditions is the evaluation of curriculum system, textbook construction and practical teaching, with an average score of 3.93, which tends to a more satisfactory level; Student satisfaction with professional resource allocation is the evaluation of professional resources and professional management. Its average score is 3.94, which tends to be more satisfactory.

Table 6 student satisfaction score of professional investment

	N	M	SD	SE
Professional investment	710	3.94	0.75	0.028
Professional school running conditions	710	3.93	0.78	0.029
Curriculum system	710	3.88	0.80	0.030
Textbook construction	710	3.88	0.88	0.033
Practical teaching	710	4.10	0.80	0.030
Allocation of professional resources	710	3.94	0.76	0.029
Professional resources	710	3.81	0.89	0.034
Professional management	710	4.01	0.75	0.028

3.1.3 Analysis of students' satisfaction in the process of specialty construction

As shown in Table 7, the average score of student satisfaction in the process of specialty construction is 4.10, which is at a relatively satisfactory level, and the standard deviation is 0.74, indicating that there are significant differences in student satisfaction in the process of specialty construction. This part examines the satisfaction of teachers' students and professional quality assurance students. Among them, the satisfaction of teachers' students is the evaluation of teachers' allocation and development, comprehensive ability and teaching level, with an average score of 4.10, which is at a relatively satisfactory level; Professional quality assurance student satisfaction is the evaluation of quality assurance student satisfaction and continuous improvement student satisfaction. Its average score is 4.10, at a relatively satisfactory level.

Table 7 student satisfaction scores of Professional construction process

	N	M	SD	SE
Professional construction process	710	4.10	0.74	0.028
Teaching staff	710	4.10	0.74	0.028
Faculty allocation and development	710	4.11	0.74	0.028
Comprehensive ability and teaching level	710	4.10	0.76	0.029
Professional quality assurance	710	4.10	0.76	0.029
Quality assurance	710	4.10	0.77	0.029
Continuous improvement	710	4.09	0.79	0.030

3.1.4 Analysis of students' satisfaction with the effectiveness of specialty construction

As shown in Table 8, the average score of students' satisfactions with the effectiveness of professional construction is 4.08, which is at a relatively satisfactory level, and the standard deviation is 0.77, indicating that there are significant differences in students' satisfaction with the effectiveness of professional construction. This part examines the student satisfaction of talent training orientation and student development. Among them, the student satisfaction of talent training orientation is the evaluation of the student satisfaction of training objectives and programs, and the student satisfaction of training mode. Its average score is 4.11, which is at a relatively satisfactory level; Student development student satisfaction is the evaluation of student guidance student satisfaction and student cultivation student satisfaction. Its average score is 4.05, which is at a relatively satisfactory level.

Table 8 student satisfaction scores of professional construction results

	N	M	SD	SE
Professional construction achievements	710	4.08	0.77	0.029
Talent training orientation	710	4.11	0.77	0.029
Training objectives and programs	710	4.12	0.76	0.029
Training mode	710	4.09	0.81	0.030
Student development	710	4.05	0.81	0.031
Student guidance	710	4.01	0.87	0.033
Student cultivation	710	4.08	0.82	0.031

3.1.5 Comparative analysis of student satisfaction of different types of students

As shown in Table 9, different types of students have different student satisfaction. The average scores of male students' satisfaction are generally lower than those of female students in terms of student satisfaction, professional investment, professional construction process and professional construction achievements, and the standard deviation of male students' satisfaction is greater than 1, which indicates that there is a great difference between male students' satisfaction and male students' satisfaction. The average score of freshman satisfaction is the highest in the average score of student satisfaction and professional investment, the average score of student satisfaction in the process of professional construction and the achievements of professional construction, and the average score of senior students is the lowest. It shows a trend that student satisfaction gradually decreases with the increase of grade. There is little difference in the source of students. They have significant differences in three dimensions: Students' satisfaction with professional investment, students' satisfaction with the process of professional construction, and students' satisfaction with the achievements of professional construction.

Table 9 Comparison of student satisfaction of different types of students

Gender		Grade				Place of origin			
M±SD		M±SD				M±SD		df	P value
School-boy	School-girl	Fresh-man	Soph o-more	Junior	Senior	city	Counr-yside		

student satisfaction	3.77± 1.08	4.02± 0.71	4.19 ± 0.78	4.04 ± 0.62	4.07± 0.67	3.84± 0.74	4.00± 0.69	4.02± 0.74	588	0.037*
Professional investment	3.69± 1.07	3.95± 0.74	4.13 ± 0.79	3.95 ± 0.64	4.02± 0.69	3.74± 0.77	3.92± 0.72	3.95± 0.77	586	0.045*
Professional construction process	3.86± 1.10	4.11± 0.72	4.25 ± 0.80	4.12 ± 0.63	4.14± 0.67	3.96± 0.77	4.09± 0.70	4.10± 0.76	592	0.043*
Professional construction achievements	3.85± 1.10	4.08± 0.76	4.26 ± 0.82	4.14 ± 0.67	4.09± 0.71	3.90± 0.79	4.06± 0.74	4.08± 0.79	708	0.041*

Note: * P < 0.05

3.2 Analysis of factors affecting students' satisfaction

3.2.1 Contribution of each parameter to student satisfaction

The student satisfaction investigated in this study consists of three first-class dimensions, six second-class dimensions and 13 third-class dimensions. As shown in tables 10, 11 and 12, the seven parameters of student satisfaction with professional investment are significantly correlated with student satisfaction, and the correlation coefficient is between 0.841-0.967; The six parameters of student satisfaction in the process of specialty construction are significantly correlated with student satisfaction, and the correlation coefficient is between 0.909-0.964; The six parameters of student satisfaction in the achievements of professional construction are significantly correlated with student satisfaction, and the correlation coefficient is between 0.866-0.925.

3.2.2 The influence of various parameters on students' satisfaction

Using data regression analysis, this paper analyzes the professional investment satisfaction, professional construction process satisfaction, professional construction effect satisfaction and the impact of each parameter on students' satisfaction. As shown in tables 13, 14 and 15, it is found that the determination coefficient (R2) of professional investment is 0.961, and the determination coefficient of seven parameters is between 0.708-0.934; The determination coefficient of professional construction process is 0.938, and the determination coefficient of its six parameters is between 0.826-0.929; The decisive coefficient of professional construction effect is 0.889, and the decisive coefficient of its six parameters is 0.750-0.856. This shows that professional investment, professional construction process, professional construction effect and each parameter have a significant impact on students' satisfaction.

Table 10 student satisfaction of professional investment and correlation analysis between seven parameters and student satisfaction

	N	Pearson correlation	Sig.
Professional investment	710	0.980**	0.00
Professional school running conditions	710	0.941**	0.00
Curriculum system	710	0.897**	0.00
Textbook construction	710	0.891**	0.00
Practical teaching	710	0.880**	0.00
Allocation of professional resources	710	0.963**	0.00
Professional resources	710	0.841**	0.00
Professional management	710	0.967**	0.00

Table 11 student satisfaction of Professional construction process and correlation analysis between six parameters and student satisfaction

	N	Pearson correlation	Sig.
Professional construction process	710	0.968**	0.00
Teaching staff	710	0.964**	0.00
Faculty allocation and development	710	0.957**	0.00
Comprehensive ability and teaching level	710	0.940**	0.00
Professional quality assurance	710	0.936**	0.00
Quality assurance	710	0.924**	0.00

Continuous improvement	710	0.909**	0.00

Table 12 student satisfaction of professional construction achievements and correlation analysis between six parameters and student satisfaction

	N	Pearson correlation	Sig.
Professional construction achievements	710	0.943**	0.00
Talent training orientation	710	0.925**	0.00
Training objectives and programs	710	0.903**	0.00
Training mode	710	0.902**	0.00
Student development	710	0.912**	0.00
Student guidance	710	0.889**	0.00
Student cultivation	710	0.866**	0.00

Table 13 student satisfaction of professional investment and regression analysis between seven parameters and student satisfaction

	B value	SE	Constant	T value	Sig.	R-squared
Professional investment	0.949	0.007	0.277	131.782	0.000	0.961
Professional school running conditions	0.876	0.012	0.571	74.046	0.000	0.886
Curriculum system	0.809	0.015	0.872	53.914	0.000	0.804
Textbook construction	0.730	0.014	1.182	52.218	0.000	0.794
Practical teaching	0.793	0.016	0.765	49.231	0.000	0.774
Allocation of professional resources	0.915	0.010	0.406	95.163	0.000	0.927
Professional resources	0.681	0.016	1.422	41.421	0.000	0.708

Professional management	0.933	0.009	0.269	100.292	0.000	0.934

Table 14 student satisfaction of Professional construction process and regression analysis between six parameters and student satisfaction

	B value	SE	Constant	T value	Sig.	R-squared
Professional construction process	0.954	0.009	0.105	103.322	0.000	0.938
Teaching staff	0.947	0.010	0.127	96.093	0.000	0.929
Faculty allocation and development	0.938	0.011	0.160	87.916	0.000	0.916
Comprehensive ability and teaching level	0.894	0.012	0.351	73.441	0.000	0.884
Professional quality assurance	0.889	0.013	0.374	70.989	0.000	0.877
Quality assurance	0.864	0.013	0.471	64.064	0.000	0.853
Continuous improvement	0.837	0.014	0.587	57.978	0.000	0.826

Table 15 student satisfaction professional construction achievements and regression analysis between six parameters and student satisfaction

	B value	SE	Constant	T value	Sig.	R-squared
Professional construction achievements	0.888	0.012	0.394	75.474	0.000	0.889
Talent training orientation	0.874	0.013	0.425	64.791	0.000	0.856
Training objectives and programs	0.856	0.015	0.486	55.987	0.000	0.816
Training mode	0.810	0.015	0.703	55.593	0.000	0.814

Student development	0.812	0.014	0.727	59.178	0.000	0.832
Student guidance	0.741	0.014	1.039	51.708	0.000	0.791
Student cultivation	0.764	0.017	0.896	46.116	0.000	0.750

3.2.3 Model fitting

Through multiple goodness tests of multivariate linear model, the linear model is finally determined as: y = 0.009 + 0.53x1 + 0.363x2 + 0.106x3. The results show that the overall interpretability of the three main parameters is 99.9%. This shows that the fitting degree of the model is ideal, and student satisfaction is closely related to professional investment, professional construction process and professional construction effect.

Table 16 overall accountability of 3 evaluation parameters: a model summary

model	R	R-squared	adjusted squared	R-	ESE	DW
1	1.000	0.999	0.999		0.020359	1.933

Predictors (constant): x1, X2 and X3 respectively represent the standardization coefficients of the three dimensions of professional investment, professional construction process and professional construction effect β Value.

4 The path of first-class undergraduate specialty construction in China's Local Application-oriented Universities in the new era

The Fifth Plenary Session of the 19th CPC Central Committee made the strategic deployment of "building a high-quality education system". As the new force of China's higher education system, local applied universities play an important role in China's economic and social development and talent training. Vigorously promoting the construction of first-class undergraduate majors and driving the construction of Application-oriented Colleges and universities with the development of first-class undergraduate majors is not only an important measure to cultivate high-quality application-oriented talents, but also the practical demand to comprehensively improve the ability of local colleges and universities to serve regional economic and social development and innovation driven development.

4.1 Build a new three-dimensional development pattern of “one body, two wings and three integration” of discipline, curriculum, specialty and education

First class discipline is an important support for the construction of first-class specialty, first-class specialty is an important connotation of first-class discipline construction, and first-class curriculum is an important link between discipline and specialty. Specialty is the basic unit of talent training. Specialty is the platform and manifestation of realizing talent training function carried by discipline construction. Discipline is the basis and support of knowledge system for professional development.

The quality of talent training depends on the level of discipline development. discipline construction emphasizes the construction of a high-level scientific research team, specialty construction emphasizes the cultivation of professionals with wide range of knowledge, strong application ability and strong employment competitiveness, and the curriculum emphasizes the improvement of teaching ability and guarantee of teaching quality. Discipline construction, curriculum construction and specialty construction complement each other and play a fundamental role in all-round talent training. Talent training is the essential function of universities. China's Local Application-oriented Colleges and universities should strive to build first-class undergraduate majors in combination with their own school running characteristics, take the training of application-oriented talents as the main body, reconstruct the concept of professional education, determine the priority development of disciplines as the two wings, coordinate the organic integration of disciplines, majors and courses, form an integrated education system of all-member education, whole process education and all-round education, and realize the new pattern of three-dimensional development of talent training, Actively promote the training and development of first-class applied talents.

4.2 Building a new model of characteristic development in the "12345" period

How to reasonably plan the specialty construction, scientifically locate, give play to the advantages, cultivate and highlight the school running characteristics, and strive to build a first-class specialty in China's Local Application-oriented Universities has important theoretical significance and practical value for application-oriented universities. The construction of first-class majors in Local Application-oriented Colleges and universities should combine the characteristics and advantages of disciplines, strengthen the top-level design of specialty layout, actively explore and build a new characteristic development model of "one, two, three, four, five", take measures according to local conditions, cultivate characteristic and advantageous majors, and create a new highland of specialty construction. "One" means "Undergraduate oriented". Talent training is the foundation and undergraduate education is the root. Local Application-oriented Colleges and universities should adhere to the core position of talent training, make use of their professional history, professional characteristics and development opportunities, and focus on improving the quality of talent training. "Two" means "two centers", focusing on the implementation of the fundamental task of "Mold high morals and cultivate talents" and cultivating first-class applied talents. The foundation of colleges and universities lies in "Mold high morals and cultivate talents". We should adhere to building morality and cultivating people as the central link. Only colleges and universities that cultivate first-class talents can become world-class universities. Local Application-oriented Colleges and universities must adhere to building morality and cultivating people, adhere to the orientation of application-oriented schools, and focus on the goal of cultivating first-class application-oriented talents. "Three" means the construction of "three first-class". Local Application-oriented Colleges and universities should be based on the long-term strategic goal of serving local economic and social development, firmly grasp the development trend of national higher education policies, comprehensively promote the construction of first-class undergraduate majors, create first-class undergraduate courses, and cultivate first-class top-notch talents. "Four" means "Four Transformations". Teacher centered to student-centered, teaching centered to learning centered, supply centered to demand centered, input centered to output centered[i]. "Five" means

"five characteristic systems". Application-oriented Undergraduate Colleges and universities should strive to build first-class majors in combination with their school running characteristics, explore and build a specialty system of characteristic disciplines, build a talent training highland, build a characteristic talent training system, build an integrated collaborative training mode inside and outside the school, build a characteristic scientific research system, further promote the deep integration of industry, University, research and application, build a characteristic campus culture education system, comprehensively improve the development of students' comprehensive ability and quality, and build a characteristic social service system to serve the country The new normal of all-round development of local and industrial sectors.

4.3 Build a new first-class talent training system guided by "quality improvement"

Strengthening first-class undergraduate, building first-class majors, cultivating first-class talents, leading and driving colleges and universities to optimize the professional structure, promote the improvement of professional construction quality, and promote the formation of a high-level talent training system are the main objectives of further promoting the construction of "four new" and fully implementing the "six excellence and one top-notch" plan 2.0. Xi Jinping, General Secretary of the Communist Party of China (CPC) Central Committee, President of the People's Republic of China and Chairman of the Central Military Commission, said t that the talent training system involves discipline system, teaching system, teaching material system, management system, etc. In the new era, cultivating first-class talents is to cultivate builders and successors of socialism with Chinese characteristics. We should pay close attention to three basic tasks, namely, adhering to the correct political direction of running a school, building a team of high-quality teachers and forming a high-level talent training system. The first-class undergraduate major is the foundation of China's Local Application-oriented Universities. The construction results directly affect the quality of talent training and the future development of the University. Quality is the lifeline of colleges and universities, and improving quality is the eternal theme of the development of higher education. China's Local Application-oriented Colleges and universities should closely focus on the main line of high-quality development, based on serving the local, strengthen the connotation construction, build a high-level teaching staff, reconstruct the new ecology of talent training, and strive to build a new highland of first-class talent training.

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