

Research on the Professional Adjustment of Professional Layout and Professional Structure

-Taking Hunan Modern Logistics Vocational and Technical College as an Example

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Abstract—Professional setting is the basic framework and foundation for teaching activities in colleges and universities, which is directly related to the functional orientation and long-term development of the school. Select the student data in the data collection platform for talent training work in 2009-2018 to conduct a dynamic analysis of the size of the students in the college and the size of the students in each major, and to understand the dynamic changes of the professional layout and professional structure of our school from a dynamic perspective. The college is better suited to regional economic development, service economic and social development, and provides professional advice on the optimization and adjustment of professional structure, providing a certain reference for the school's professional layout and professional structure adjustment planning.

Keywords—Professional scale; Professional institutions; dynamic adjustment; Hunan Modern Logistics Vocational and Technical College

I. INTRODUCTION

The professional structure is the basic framework and foundation for the development of teaching activities in colleges and universities, which is directly related to the functional orientation and long-term development of the school. In order to better adapt to industrial restructuring, regional economic development, and effectively serve economic and social development, the professional restructuring of colleges and universities has been on the road. Regarding the research on professional structural adjustment, such as Yang Yijun (2018)[1] comprehensively analyzed the professional structure of all higher vocational colleges in Hunan Province from 2011 to 2015 by using multiple analysis methods, and concluded that the professional structure of higher vocational colleges in Hunan Province The existing problems and suggestions for perfecting the docking of professional structure and industrial structure. Wendolf [2] pointed out in his book: "The expansion of the scale of college education will lead to many changes in the number of students, educational institutions, educational content and teaching objectives. Many changes will lead to the corresponding professional structure of colleges and universities in order to adapt to the requirements of the times. Change." During this period, the number of students in some

majors exceeded the demand of the society, but the number of students in some majors could not meet the needs of the society. Some professional enrollment is proportional to the current development of the market economy, but there are still some not associated. Wang Mingming (2018) [3] based on the survey data of 12 universities in Shandong Province to study the optimization of the discipline structure of local applied universities; Liu Ping (2018) [4] deeply explored the intrinsic relevance of the professional structure and industrial structure of colleges and universities On the basis of this, it is proposed to guide the professional structure of colleges and universities based on the talent demand and resource allocation of industrial development; Tian Xianpeng (2018) [5] proposed the dynamic adjustment of disciplines in universities from the theory of "triangular coordination model"; Chen Fengjuan (2018) [6] Correlation analysis between the number of graduates of higher vocational education in Guangdong Province and economic development, the scale and economic development of higher vocational colleges in Guangdong Province, the structure of higher vocational professions in Guangdong Province and the adjustment of economic and industrial structure.

II. THE COLLEGE PROFESSIONAL SETTINGS

The college has always adhered to Hunan, facing the whole country, docking industry, combining engineering and learning, improving quality, building brand, taking group education as the platform, focusing on connotation construction, aiming at service industry, and insisting on integrating modern logistics talent training chain into modern logistics industry. Chain, all-round docking logistics industry to create a modern logistics major professional group, and strive to cultivate "modern logistics management", "advanced logistics technology" and "logistics business" three major professional groups, the college has a logistics management college, logistics engineering college, logistics information College, Logistics Business School, School of Logistics and Humanities, and 6th Institute of International Cooperation and Continuing Education, opening logistics management, logistics engineering technology, logistics information technology, Internet of Things technology, e-commerce, logistics and financial management, business English, international There are 27 majors such as economy and trade, among which the logistics information technology major and the logistics financial management specialty are the first catalogue professions opened in our country, and the matching degree

between professional and industry reaches 100%. Logistics management is the first batch of demonstration specialty in Hunan Province; logistics information technology is the key construction specialty of Hunan specialty and central financial support; logistics engineering technology is the key construction specialty supported by the central government; accounting is a provincial-level boutique specialty. The college has 1 provincial-level demonstration specialty in logistics management, 2 provincial-level specialties in e-commerce and logistics information technology, 2 key construction majors in logistics information technology and logistics engineering technology, and 1 provincial-level boutique specialty. One level of education and teaching reform pilot program.

TABLE I TABLE OF THE SIZE OF THE COLLEGE STUDENTS IN THE 8TH YEAR (UNIT: PERSON)

years	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Number of students in school (person)	4752	5778	6084	5176	4296	4305	5029	5948	6566	7252

It can be seen from the changes in the size of students in the past 10 years that since 2013, the number of students in the college has been increasing year by year. The enrollment plan is expanding year by year, and the completion rate of enrollment plans and the rate of new arrivals are increasing year by year. The influence of the school is increasing.

B. Line chart of the student's scale in the past 10 years

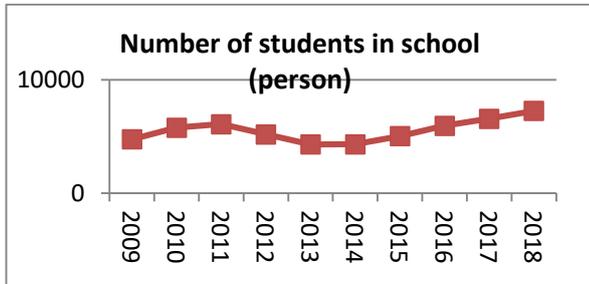


Fig 1 Line chart of the student's scale in the past 10 years

III. THE CHANGES IN THE SIZE OF STUDENTS IN THE PAST 10 YEARS

The school student scale is a direct indicator to measure the scale of a school's talent training. It is a factor to measure whether higher vocational colleges adapt to industrial restructuring, regional economic development, and effectively serve economic and social development. The dynamic changes in the number of students in school can directly reflect the school's enrollment, employment and quality of personnel training, and the transfer of talent to the society.

A. The size of students in the past 10 years

From the line chart, we can more clearly see the changes in the school's students in the past 10 years, including a downward trend from 2012 to 2014, which is related to the decline in the size of the college entrance examination students. Since 2013, the enrollment scale of the college has been increasing year by year.

IV. THE CHANGES IN THE SIZE OF STUDENTS IN VARIOUS MAJORS IN THE PAST 10 YEARS

A. The size of students in various majors in the past 10 years

This research takes the various majors of Hunan Modern Logistics Vocational and Technical College as the research object. According to the data of the data collection platform of talent training work in 2009-2018, the data and changes of the students in the colleges and universities are collected for nearly ten years.

TABLE II THE SIZE OF THE STUDENTS IN THE COLLEGES AND UNIVERSITIES IN 8 YEARS (UNIT: PERSON)

profession	Approval setting	First enrollment	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1	201603	201609								0	22	34
2	201802	201809										0
3	200408	200409	157	221	250	223	200	240	355	572	749	831
4	200511	200609	79	99	84	55	18	27	26	12	22	50
5	201403	201409						0	26	49	89	91
6	201608	201609								0	176	247
7	201608	201609								0	40	70
8	201403	201409						0	24	68	110	142
9	200408	200409	669	935	1004	900	706	626	681	864	906	963
10	201802	201809							0		0	0
11			58	55	47	28	7	0				
12	200411	200609	79	117	188	84	12	8	56	152	238	333
13	200411	200509	81	128	145	119	80	47	44	50	47	104

Table II, cont

14	201503	201508							0	53	135	247
15	201703	201709								0	0	0
16	200511	200609	190	162	158	132	98	70	74	83	87	77
17	200411	200509	53	78	74	62	47	57	92	156	158	156
18	200511	200709	44	95	139	139	150	133	134	121	94	87
19	201403	201509						0	0	17	62	105
20	200611	200709	186	278	299	211	127	128	125	119	156	199
21			112	108	100	55	28	0				
22	200610	200709	168	225	313	278	236	385	419	437	256	273
23	200511	200909	0	48	84	78	31	43	61	62	41	50
24	201103	201109			0	19	29	34	63	94	145	208
25	200512	200609	167	273	299	352	331	246	227	217	204	178
26	200408	200409	2,697	2886	2763	2180	1881	1974	2359	2591	2545	2517
27	201103	201109			0	64	124	153	137	131	169	141
28	200608	200609		59	137	195	189	134	126	100	115	124
29	201608	201609								0	0	25
30			12	1 1		2	2	0				

NOTE: 1-30 corresponding majors are:

1-Procurement and supply management ; 2-Big data technology and application ; 3-E-commerce ; 4-Electronic information engineering technology ; 5-Port and shipping management ; 6-High-speed rail passenger transport ; 7-Engineering logistics management ; 8-international economy and trading ; 9-accounting ; 10-Exhibition planning and management ; 11-computer network Technology ; 12-Computer Application Technology ; 13-Hotel management ; 14-Air crew ; 15-Cold Chain Logistics Technology and Management ; 16-Chain management ; 17-Tourism management ; 18-Automotive Marketing and Service ; 19-Business management ; 20-Business English ; 21-Audit practice ; 22-Marketing ; 23-Secretarial ; 24-Internet of Things Application Technology ; 25-Logistics engineering technology ; 26-Logistics management ; 27-Logistics financial management ; 28-Logistics information technology ; 29-Mobile application development ; 30-Refrigeration and air conditioning technology

In view of the number of students and changes in the colleges and universities in the past 10 years, we can get the professional dynamic adjustment of the college. According to the needs of regional economic and social development, the college has established a mechanism for professional dynamic adjustment and optimization, forming a “normally fit, agile response” professional group to adjust the new normal and improve the “multi-party linkage and synergy” professional development mechanism, according to industry development trends and Market demand, timely addition and cancellation of some majors.

It can be seen from Table 2 that the refrigeration and air-conditioning technology major was abolished in 2013. In 2014, two majors of computer network technology and auditing practice were abolished; in 2011, two majors of Internet of Things application technology and logistics park financial management were added. In 2014, it added two majors: Port and Shipping Management, International

Economy and Trade. In 2015, it added two majors in air crew and business management. In 2016, it added procurement and supply management, high-speed rail passenger transport, and engineering logistics. Management and mobile application development 4 majors. In 2017, we added cold chain logistics technology and management. In 2018, we added two majors: big data technology and application, exhibition planning and management. Through the optimization and adjustment of the professional settings, the formation of professional clusters and the sharing of superior resources have been formed, which has enhanced the overall strength of the profession and promoted the continuous improvement of the professional education level.

The professional with the red color in the table is a professional that converts the professional name according to the new and old professional comparison table of the higher vocational education (specialist) of the higher education institutions.

B. New and cancelled dynamic changes in the size of professional students in the past 10 years

1) For the college to add and revoke the number of professional students in the past 10 years, draw a line chart, and visually see the dynamic changes of the size of each new and cancelled major.

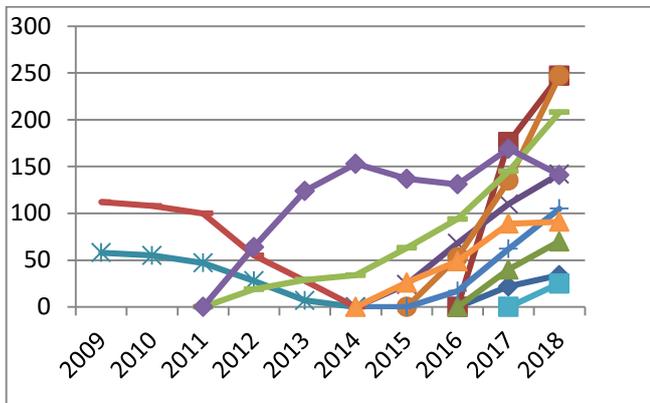


Fig 2 New and cancelled professional students in the past 10 years

It can be seen from the line chart of the number of new students enrolled in the school in the past 10 years.

a) The number of newly added professional students has increased year by year. In 2011, the number of new IoT application technology and logistics park financial management students increased rapidly year by year; in 2014, the number of students in the two majors of port and shipping management, international economy and trade increased rapidly, especially international. Major in economics and trade; the number of new students in the air crew major increased rapidly in 2015; the number of new high-speed rail passenger transport students in 2016 is growing faster than that of engineering logistics management and procurement and supply management in the same year; 2017 The newly added cold chain logistics technology and management profession is newly added, so the enrollment scale is still small.

b) Cancellation of majors was abolished due to the decrease in the number of students in school and the incompatibility with regional economic development.

c) The newly-expanded students in the school are growing rapidly in logistics finance management, Internet of Things application technology, high-speed railway passenger transport, and air crew. This is related to the rapid development of the mobile Internet and the rapid development of the Internet of Things and the need for more corresponding talents; this is related to the current new financial era; this is related to the increasing number of passengers traveling by high-speed rail and air travel in China.

2) For the majors that have existed for nearly 10 years in the college, draw the number of students in the school, and visually see the dynamic changes of the students who have been in the college for a long time.

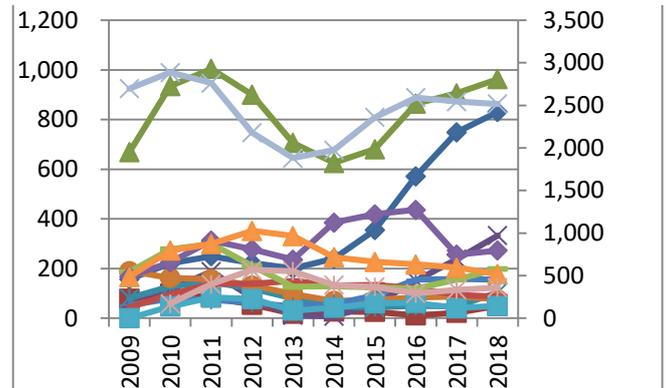


Fig 3 The changes in the school's students in the past 10 years

It can be seen from the dynamic changes of the students in the past 10 years of the long-running profession:

a) There are two majors in electronic information technology and secretarial education. Among them, the number of students majoring in electronic information technology has been relatively small, especially in the past six years, the number of students has not exceeded 50; the number of secretarial students has been relatively small, especially in the past six years, the number of students is up to 62.

For those with a small school size, it may be considered to stop enrolling students and cancel them. New professions that are more adaptable to industry development and regional economic development, and new developments needed for future industry development with a development perspective.

b) In recent years, the number of students in school has decreased year by year, including professional hotel management, chain management, automotive marketing and service, and logistics engineering. Among them, the number of students in the hotel management profession has declined since 2013. Except for 2018, the number of students in the past five years has not exceeded 50; the number of students in the chain management major has not exceeded 90 in the past five years; the automotive marketing and service majors are close. In the past five years, the number of students in school has decreased by more than 150 people. The number of students in logistics engineering technology has declined year by year in the past six years.

For the majors whose number of students is decreasing year by year and the scale is small, it is also considered to stop enrolling students; for the number of students whose number of students is decreasing year by year and has a certain scale, the college should consider the problem of professional construction and professional adjustment, whether it is in the process of professional construction and talent cultivation. Which part of the link has caused problems? The college should promptly diagnose the cause of this problem and solve the problem.

c) *In recent years, the number of students in the school has increased rapidly year by year, including computer application technology and e-commerce.* The number of students in computer application technology in 2018 is nearly 6 times that of 2015; the number of students in e-commerce majors has increased rapidly in the past 5 years. The number of students in 2018 is 3.5 times that of 2014, more than 4 times that of 2013. This is not unrelated to the rapid development of e-commerce and information technology in recent years.

V. COUNTERMEASURES AND SUGGESTIONS

A. *The number of newly added professional students has increased year by year*

Among the newly added majors, the rapid growth of the school's students is the logistics finance management, the Internet of Things application technology, the high-speed railway passenger transport, and the air crew. This is related to the rapid development of the mobile Internet and the rapid development of the Internet of Things and the need for more corresponding talents; this is related to the current new financial era; this is related to the increasing number of passengers traveling by high-speed rail and air travel in China.

B. *From the majors with a long start-up period, there are two majors in electronic information technology and secretarial*

For those with a small school size, it may be considered to stop enrolling students and cancel them. New professions that are more adaptable to industry development and regional economic development, and new developments needed for future industry development with a development perspective.

C. *From the long-running profession, the number of students in school in recent years has decreased year by year, including hotel management, chain management, automobile marketing and service, and logistics engineering*

For the majors whose number of students is decreasing year by year and the scale is small, it is also considered to stop enrolling students; for the number of students whose number of students is decreasing year by year and has a certain scale, the college should consider the problem of professional construction and professional adjustment, whether it is in the process of professional construction and talent cultivation. Which part of the link has caused problems? The college should promptly diagnose the cause of this problem and solve the problem.

VI. CONCLUSION

Taking Hunan Modern Logistics Vocational and Technical College as an example, the student data in the talent training work status data collection platform from 2009 to 2018 was selected, and the dynamics of the college students and the size of each major in the school were dynamically analyzed from the perspective of dynamic change. Better understand the dynamic layout of our school's professional layout and professional structure. Analyze changes in professional layout and professional structure by dynamically changing the number of students in each major. Therefore, the college proposes to optimize and adjust the countermeasures for the professional structure that better adapts to regional economic development and service economic and social development.

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3. Hunan Vocational Education Teaching Reform Research Project: "People's Satisfaction" Research on Quality Evaluation System of Talent Cultivation in Higher Vocational Education in Hunan Province;

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