

Research on the Practice Path of University Alliance for Talent Training under the Background of Coordinated Development of Beijing-Tianjin-Hebei

Yanmin Wang^{1,*}, Hefei Li², Miao Tian², Wenlei Huang¹, Xin Sun¹, Chenhao Li¹, Yiming Bian¹

¹*School of Psychology and Mental Health, North China University of Science and Technology, Tangshan, 063210, China*

²*Periodical Press, North China University of Science and Technology, Tangshan, 063210, China*

**Corresponding author*

Keywords: Coordinated development of Beijing-Tianjin-Hebei, Strategic Alliance of Universities, University Strategy, Local College and Universities, Talent Training

Abstract: Since the reform and opening up of China, higher education has created a great leap forward in the quantity and scale of development in Hebei province. The coordinated development of Beijing-Tianjin-Hebei has brought opportunities for the improvement of higher education while creating unprecedented challenges in enhancing of higher education competitiveness in Hebei Province. Taking the current University Alliance of Beijing-Tianjin-Hebei as research object, this paper discusses the practical development, management mechanism, and characteristics of university alliance based on the background of coordinated development of Beijing-Tianjin-Hebei to give some enlightenment to talent training in Hebei.

1. Introduction

Since the reform and opening up of China, Hebei provincial government has always been trying to provide stable economic development and sustainable GDP growth. Consequently, GDP in this region has grown from 18.3 billion RMB in the early days of reform and opening up in 1978 to 3,249.46 billion RMB in 2018, which accounts for 41.2% of Beijing-Tianjin-Hebei's GDP. At the same time, per capita GDP was also increased from 364 RMB in 1978 to 43,003 RMB in 2018 [1]. Under this background of development, the scale of higher education in Hebei Province has constantly been expanding. In the same time period, the number of ordinary higher education institutions in Hebei province has increased from 3 to 122 accounting for 45.2% of the total number of universities in Beijing-Tianjin-Hebei [2]. Especially since the reform and opening up and after the adjustment and reconstruction of colleges and universities in Hebei province, the number of college students has grown from 20,000 in 1977 to 1.3426 million in 2018 and the number of full-time teachers has grown from 10,000 in 1984 to 79,100 in 2019 [3-4]. It could be concluded that since the reform and opening up, higher education development in Hebei Province has occurred by leaps and bounds in both number and scale. However, compared with the development level of higher education in Beijing-Tianjin-Hebei, that in Hebei Province is low. Therefore, turning the

shortcomings into advantages has become one of the realistic topics in the development of higher education in Hebei Province.

The Political Bureau of the CPC Central Committee deliberated and approved the “The Outline of the Coordinated Development Plan for the Beijing-Tianjin-Hebei Region (2015.4)” (hereinafter referred to as “the Outline”), providing policy support for the coordinated development of Beijing-Tianjin-Hebei and a development platform for the training of young talents in Hebei. With the release of “the Outline”, Beijing, Tianjin, and Hebei have sought integrated development of Beijing-Tianjin-Hebei where Hebei has taken this opportunity to promote high-quality development of higher education. As the central force reflecting the development level of Hebei higher education and enhancing its competitiveness, young talents are important asset for social and economic development in Hebei Province. This paper takes the coordinated development of Beijing-Tianjin-Hebei region as research background and Beijing-Tianjin-Hebei University Alliance as research object and explores the practical path of talent training of Beijing-Tianjin-Hebei University Alliance, to provide operational suggestions for the improvement of talent training quality in local universities.

2. Research Object

University alliance can be considered as a new mode of collaborative innovation and development of colleges and universities. It is also applied as a new development method in the post-merger era of colleges and universities and is one of the realistic ways for colleges and universities to improve talent training quality. Currently, Chinese researchers have mostly focused on the value and significance of university alliance in effective integration of resources and realization of complementary advantages under market economy from the perspectives of economics and management [5]. Some researchers advocate that a university alliance is a loose consortium of two or more universities with complementary advantages, resource sharing, risk sharing, and multi-directional flow established through agreement or joint means for a common strategic goal [6]. Also, researchers have focused on analyzing the function of university alliances in improving the core competitiveness of universities from the aggregation and value chain effects of university alliances. Other researchers have explored internal contradictions between market logic and higher education development and emphasized that university alliance was the coordinated development of universities to play their autonomy [7]. In general, university alliance differs from irregular academic exchanges and unilateral inter-university cooperations among universities and is one of the standardized and systematic symbiotic university development strategies formed based on voluntary cooperation. It mainly involves universities with independent articles of association and independent legal person status, with one or two universities as leading units, adhering to the principle of "symbiotic cooperation, resource sharing, and risk sharing", to improve talent training quality.

On this basis, this paper takes university alliance in Beijing-Tianjin-Hebei region as the research object. This example is like other alliances such as C9 League, science and technology park alliance of universities in Beijing-Tianjin-Hebei, course alliance in Tianjin universities, Outstanding Medical Talent Training Alliance, Medical "Double Class" Construction Alliance, Yanhe Collegiate League of Talent Cultivation, Cooperation Construtium of Beijing High technology Universities, and Scientific Research Institution Alliance in Beijing-Tianjin-Hebei.

3. Research Method

Through the collection and sorting of Chinese and foreign language-related documents using a variety of keywords such as talent training, university cooperation, university alliance, strategic

alliance of universities, cooperation between "Belt and Road" Chinese and foreign universities, talent training mode of domestic and foreign universities, analysis of the macro understanding of talent training in universities in Beijing, Tianjin, and Hebei was performed. Accordingly, 602 relevant documents were obtained from the China national knowledge internet (CNKI). Among them, 480 papers and news reports were published since the beginning of 21st century. Taking 461 academic papers as valid documents for analysis, the systematic understanding of the talent training path of university alliance was obtained by using Cite Space software.

4. Results and Analysis

4.1. The Realistic Interpretation of the Coordinated Development of University Alliance in Beijing-Tianjin-Hebei

4.1.1. At Policy Level, the Coordinated Development of Beijing-Tianjin-Hebei Region Has Opened Up an Institutional Support Platform for the Integrated Development of Universities in Beijing, Tianjin, and Hebei Regions

The release of “the outline” for the integration of Beijing and Tianjin provided development direction and guidance which was then issued by “Beijing-Tianjin-Hebei education coordinated development special work plan in the 13th five-year plan period”, “Beijing-Tianjin-Hebei education coordinated development action plan (2018-2020)” and a series of policy statements for the coordinated development of Beijing-Tianjin-Hebei and laid institutional foundation for the coordinated development of Beijing-Tianjin-Hebei universities. Among them, “Special Work Plan for the Coordinated Development of Beijing-Tianjin-Hebei Education during the 13th Five-Year Plan period” released in 2017 especially highlighted Beijing-Tianjin-Hebei higher education resource sharing project, Beijing-Tianjin-Hebei Education Collaborative development scientific research project, and cooperation project of non-capital function relocation in the field of education. This document encouraged the establishment of university alliances to promote shared curriculum between university alliances, scientific cooperation, and interactions among teachers and students. This document also encouraged universities to establish large scientific equipment databases in the three provinces (cities) and practice bases for university students, and jointly train graduate students. “The Action Plan for the Coordinated Development of Education in Beijing-Tianjin-Hebei Region (2018-2020)” (hereinafter referred to as “the plan”) also emphasized on the important role of Hebei in the integration process of Beijing-Tianjin-Hebei region. According to the plan, Hebei had to actively relieve Beijing's non-capital functions, undertake transfer of high-quality educational resources, serve the overall coordinated development of education in Beijing-Tianjin-Hebei region, optimize the layout and structure of education, and improve talent training quality. In this context, “medium and long-term education reform and development plan of Hebei province (2010-2020)”, “the thirteenth five-year plan for education career in Hebei province” (2018) put more emphasis on Beijing-Tianjin-Hebei regional economic integration and Hebei province had to deepen cooperation with Beijing-Tianjin, since the alliance of Hebei colleges and universities develops institutional support.

4.1.2. At Realistic Level, Beijing-Tianjin-Hebei Coordinated Development and University Alliance have become one of the Hot Spots in the Current Development Process of Higher Education

Based on the analysis of Cite Space Software, it was found that research on university alliances has increased in recent years. It could be seen that although early research on university alliance had

focused on the deconstruction of "university alliance" and analyzed the connotation and value of "university alliance" as a category of management, education, and economics. However, in the middle and later periods, domestic researchers have paid more attention to how to take root in Chinese education and practice university alliance. Especially after 2016, research on hot current events has gradually increased and "Beijing-Tianjin-Hebei integration" and "resource sharing" have also become hot keywords Figure 1.



Figure 1: Research hot words

As shown in Figure 2, we found that "Beijing-Tianjin-Hebei", "coordinated development", "resource sharing", and "university alliance" keywords had relations of co-occurrence, which meant that the coordinated development of Beijing-Tianjin-Hebei university alliance provided a reference direction for university talent training.



Figure 2: Keyword co-occurrence of network knowledge map

4.2. Analysis of the Operation Status of Beijing-Tianjin-Hebei University Alliance

4.2.1. The Development Opportunity of "Double First-Class" Construction Brings Opportunities for the Rapid Development of University Alliance

Under the background of promoting the "double first-class" construction of colleges and universities, previous resource allocation mode of solidified identity has been expired and competitive pressure between colleges and universities has increased. To accelerate the construction of first-class disciplines, many universities have established university alliances for mutual benefit and enhancing the competitiveness of universities [8]. For example, C9 League, Medical "Double First-class" Construction Alliance, and Yanhe Collegiate League of Talent Cultivation, although established at different times, are all created with the opportunity of building first-class disciplines and universities. Among them, C9 League took the opportunity of the 7th Series of first-class University Construction Seminar and was formed in October 2009 by the first batch of 9 original 985 national first-class universities. The construction mode of C9 League was the classic paradigm of first-class university construction alliance in China, which created a good demonstration for

universities to raise money and establish university alliances. Since the issuance of the Notice of the Implementation Measures for Promoting the Construction of World-class Universities and First-class Discipline (Interim) (2017), the establishment of university alliance has also become a strategic choice for universities to build first-class universities. With the issuance of a series of documents such as Guiding Opinions on Accelerating the Construction of "Double First-Class" in Colleges and Universities (2018), university alliance has obtained more policy support and medical "Double First-class" Construction Alliance and Yanhe Collegiate League of Talent Cultivation have also been established successively. In March 2019, Yanhe Collegiate League of Talent Cultivation initiated by Beijing Institute of Technology was officially established aiming to jointly promote China's higher education to adhere to development path of education with Chinese characteristics. In October 2019, Medical "Double First-class" Construction Alliance was officially established with Peking University as the leading unit, covering 9 key medical universities and is known as MedicalC9 League. "Double First-class" medical construction alliance was established under the guidance of the Department of Degree Management and Graduate Education of the Ministry of Education to accelerate the construction of "double first-class" medical education. It could be concluded that "double first-class" construction brought external opportunities for the rapid development of domestic university alliance.

4.2.2. Market Drives Development and Sharing Promotes Stability

Training talents capable of adapting to market competition and social development needs is a common problem faced by all universities under the condition of market economy. When universities realize that they cannot meet these needs on their own, they seek alliance with other universities. Beijing-Tianjin-Hebei Double High Construction Alliance is jointly established by 24 "double high" universities in Beijing-Tianjin-Hebei region to transform high-quality resources, improve the comprehensive competitiveness of universities, and meet local market demand.

On the other hand, with the development of higher education internationalization and economic globalization, colleges and universities are still facing the double impact of international and domestic environments [9]. It is difficult for any university to remain invincible alone under fierce competition. Therefore, establishing university alliances has become popular among universities to seek common development. University alliance not only is conducive to optimal allocation of resources and can effectively improve educational resource integration, but also can realize resource sharing to effectively improve talent training quality. For example, universities involved in C9 League have carried out deep cooperation in undergraduate exchange, graduate student joint training, jointly holding summer schools, developing teaching material construction, and building shared distance education platforms to improve talent training quality to connect with world-class universities. Yanhe Collegiate League of Talent Cultivation is used to build a university talent training community in the new era based on resource sharing, complementary advantages of mutual recognition of credits, mutual employment of teachers, mutual distribution of students, and mutual course selection.

4.2.3. Objective: To improve the quality of student training to achieve high-quality development of higher education

As the main tool for the cooperation between universities and enhancing the competitiveness of universities, university alliance is also an important approach for improving talent training quality. The main goal of university alliance is to improve talent training quality. Among them, Yanhe Collegiate League of Talent Cultivation issued "Yanhe Declaration" with the Spirit of Yan'an as the link, to fully exploit the advantages of talent training in different universities, optimize and upgrade

talent training mode. The main goal of Beijing-Tianjin-Hebei University Science Park Alliance and Beijing-Tianjin-Hebei Collaborative Innovation Alliance was to promote the incubation of high-tech enterprises, cultivate strategic emerging industries and establish a platform to transform high-quality resource achievements. Medical "Double First-class" construction alliance focused on key issues such as medical education academic degree, medical education, teaching reform, clinical research innovation, support system, new medical personnel training, and training medical leading personnel to help the construction of a strong higher education country and the implementation of healthy China strategy.

4.3. Management structure of Beijing-Tianjin-Hebei University Alliance

4.3.1. Formulation of the Agreements and Plans of University Alliance to Ensure Orderly Cooperation among Universities

University alliances are generally organized and managed by contract law, which stipulates the rights, obligations, and scope of cooperation of universities among the members [10]. For example, since the establishment of Medical "Double First-Class" construction alliance, it has provided guiding ideology, target positioning, discipline scope, alliance vision, regular work, organizational mode, and fund management. Medical "Double First-Class" Construction Alliance has clarified the constitution of Medical "Double First-class" Construction Alliance to standardize and systematically carry out the cooperation between colleges and universities of the alliance. C9 League signed "the Agreement on Cooperation and Exchange of Talent Training in First-class Universities" in 2009. In this agreement, universities clarified the arrangements of the joint training. Yanhe Collegiate League of Talent Cultivation is mainly based on the Declaration of Yanhe Collegiate League of Talent Cultivation and establishes the specific cooperation between the allied colleges and universities to construct first-class majors, courses, and teachers. Under the guidance of the Cooperation Framework Agreement on the Training of Outstanding Talents, member universities jointly carry out independent selection and admission work.

4.3.2 Through Joint Meetings and Seminars, to Enhance the Lasting Power of University Alliance

Excellent 9 established the working conference system to make the alliance cooperation more profound and more extensive. Therefore, all universities of Excellent 9 need regular joint meetings to summarize cooperation results, discuss the next step for cooperation in various fields, and prepare for the follow-up work. Beijing High-tech University Alliance holds a high-end forum to strengthen communication between colleges and universities in the alliance, create an excellent academic atmosphere, and promote intellectual enlightenment in the academic thoughts of graduate students. Beijing Double High Construction Alliance held a summit forum and showed that the important role of school organization had to be played and resources in the alliance had to be coordinated and formed through the effective governance of administrative organizations to make the development direction of colleges and universities consistent with the national major strategy of coordinated development of Beijing-Tianjin-Hebei region.

4.3.3. Setting up Alliance Institutions to Operate Effectively

Taking the Medical "Double First-Class" Construction Alliance as an example to carry out cooperation more effectively and promote the reform and development of medical education and teaching, the alliance has established specific rules, regulations and management methods and set up a council, secretariat, and work coordination group. Among them, Professor Zhan Qimin served

as the first chairman, while the vice presidents of Shanghai Jiao Tong University and Sun Yat-Sen University served as vice chairmen. The alliance has set up an affiliated unit as the branch of the school of Medicine of Peking University Graduate School and has a secretariat and a work coordination group to develop various functions of university alliance. Beijing Outstanding Medical Talents Training University Alliance has set up a Medical University Alliance office in the Academic Affairs Office of Capital Medical University. The form of the alliance carried out all-around cross-school teaching cooperation activities, enriched teaching resources, and improved medical professional level through the exchanges and cooperation among member universities.

5. Discussion

As an important way of talent training, university alliance provided a future development direction for the training of young talents in Hebei province. The university alliance was not only the result of the coordinated development policy of Beijing-Tianjin-Hebei region, but also the practical need for the development and talent training of the Beijing-Tianjin-Hebei region, especially Hebei university alliance. At present, the university alliance established among universities in Beijing, Tianjin, and Hebei has gradually formed and developed, in terms of both talent training path and current operating characteristics, and has gradually become stable (as shown in Figure 3).

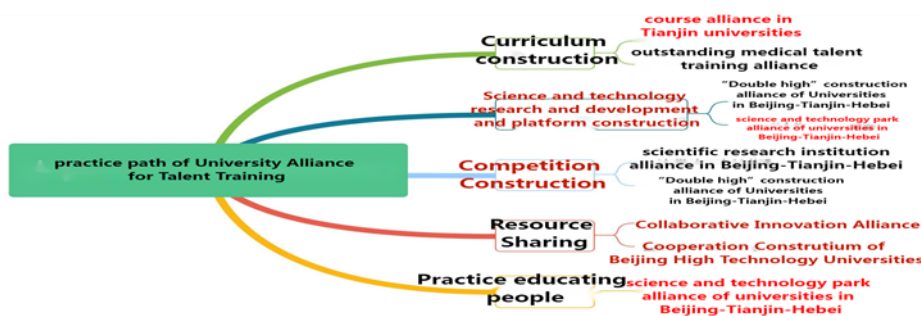


Figure 3: Talent training path of university alliance

5.1. Curriculum Construction

To improve education and teaching levels in colleges and universities, many alliances cooperate in curriculums. Tianjin Curriculum Alliance was established to jointly create "golden courses", improve curriculum construction level of colleges and universities, and enhance their educational ability. Beijing Excellent Medical Talent Training University Alliance, driven by Medical Department of Peking University, attempts to promote the construction of first-class courses within the alliance, and lay a good knowledge foundation for talent training.

5.2. Science and Technology Research and Development and Platform Construction

Under the background of overall development of education, cooperation and competition of local universities, the construction of scientific research and platform has become the key to improve the competitiveness of colleges and universities. As an alliance of vocational universities, Beijing-Tianjin-Hebei Double-High Construction Alliance strengthened deep internal cooperation, led by high-level professional universities, and formed connections with similar majors in different universities to strengthen scientific and technological research and development and build a scientific and technological innovation platform. By using its advantages to comply with national innovation-driven development strategies, integrate resources, and fully exploit university science

park policy innovation, mechanism innovation, and resource convergence platform for supporting Beijing-Tianjin-Hebei region university discipline development, talent training and other core functions, Beijing-Tianjin-Hebei university science park alliance has become an important window to promote the transformation of scientific and technological achievements, and injected new impetus for the Beijing-Tianjin-Hebei region integration of science and technology innovation

5.3. Competition Construction

From talent training as the starting point and students as the theme, university alliance gradually combines professional teaching with practical teaching and competitive education. Beijing-Tianjin-Hebei Research Institute Alliance has attracted several research institutes, universities, and enterprises to join, fully mobilize(d) the resources of Beijing, Tianjin, and Hebei, and held the Scientific and technological achievements selection activities in the Alliance of Beijing-Tianjin-Hebei Research Institute to promote the transformation of scientific and technological achievements, encourage innovation and creation, and cultivate high-quality talents. Beijing-Tianjin-Hebei Double-high Construction Alliance started with vocational development, further improved the function of "vocational skills competition high-quality resource achievement transformation platform", and promoted talent training in modern vocational education.

5.4. Resource Sharing

Resource sharing between university alliances can effectively promote the utilization of remaining resources and realize the complementary advantages of various high-quality educational resources. The three university members of Beijing-Tianjin-Hebei Collaborative Innovation Alliance share courses, scientific research projects, and other resources, encourage inter-school employment of excellent teachers and temporary training of management cadres and effectively promote the coordinated development ability of higher education services in the three regions. Beijing High-tech University Alliance has jointly developed the library resource ecosystem of High-Tech Alliance. Internal members of the alliance can access the system through computers or mobile phones to share rich library collection resources of alliance universities.

5.5. Practice Educating People

The ultimate foothold of talent training should return to reality and practically and test train talents. Relying on the intellectual resource advantages of colleges and universities, Beijing-Tianjin-Hebei University Science and Technology Park Alliance connects talents and enterprises, plays a radiating role, links science and technology with industry, encourages students to exercise in practice bases and enterprises, and gives full play to the scientific research value of talents.

6. Conclusions

Beijing-Tianjin-Hebei University Alliance has laid a good foundation to serve the training of young talents in Hebei through teaching cooperation, student exchange, mutual credit recognition, scientific research cooperation, graduate training, teacher and student exchange visits, and information resource sharing. Currently, although Beijing-Tianjin-Hebei higher education cooperation has rapidly developed, it faces openness, sharing, daily maintenance and operation costs brought by the instability of relationship network, as well as resource sharing and division under different stakeholders. This paper has suggested that blockchain technology could be applied

to improve young talent training quality in Hebei by increasing government support and improving initiative teachers.

Introduction of blockchain technology to reduce operation costs can improve the efficiency and quality of university alliances. The gradual maturity of blockchain technology could bring great convenience in promoting the efficient operation of university alliance. The openness and cooperation characteristics of university alliances require universities to apply large data and technical conditions to solve the cost problems of resource duplication, alliance platform operation, and alliance relationship maintenance and stabilize university alliances. On the other hand, giving full play to the main role of government and providing key support could effectively stimulate the enthusiasm of university alliance. University alliance involves many interests and different subjects have different roles, interests, and needs. Therefore, university alliance faces complex interest distribution and coordination problems. Under this condition, government is the best coordinator. Especially when the number of joint schools is large, government can play the role of selecting alliance members and coordinating and balancing the cooperation between universities. In the establishment and operation of Beijing-Tianjin-Hebei University Alliance, government can formulate special policies and financial support for key universities to stimulate the enthusiasm of key universities to establish alliances and share superior resources, guide the cultivation of symbiosis consciousness among key and ordinary universities and promote the standardization of university alliance operation. In addition, teachers are the backbones of colleges and universities in improving the quality of talent training. By cultivating the cooperative innovation spirit of teachers through the cooperation mode, university alliance can effectively improve education and teaching quality to directly and effectively realize the improvement of the competitiveness of colleges and universities.

Acknowledgment

This work was support by the research fund for program of Research on the construction of the Beijing-Tianjin-Hebei University Alliance (TSSKL2022-268)

References

- [1] *Hebei Economic yearbook(2019)*<http://tjj.hebei.gov.cn/res/nj2019/zk/indexch.html>
- [2] Hou Jianguo. *Study on the Sustainable Development of Education in Hebei Province*. Hebei Education Press. 2016. 1.97
- [3] *Educational statistics yearbook of China (2019)* http://www.moe.gov.cn/s78/A03/moe_560/jytjsj_2019/gd/202006/t20200611_465049.html
- [4] *Educational statistics data in 2017*.http://www.moe.edu.cn/jyb_sjzl
- [5] Wang Zhengqing, and Li Fei. *The Characteristics, Motivations, and Obstacles of the University international Consortium*. *International and Comparative Education*. 2015, 37 (05). 52-57
- [6] Zhu Yicai, Liu Zhimin. *From Co-construction to Resonance: Value Orientation of the "Belt and Road" university alliance*. *Journal of Education Studies*. 2019, 15 (05). 70-79
- [7] Zhang Jiming. *The Core Value and the Institutional Spirit Construction of Our Modern University System*. *Journal of Qilu Normal University*, 2020, 35 (03): 1-7.
- [8] Liu Kun. *College Alliance under Background of "Double First-Class" Construction: Characteristics, Motives, and Prospects*. *Heilongjiang Researches on Higher Education*. 2020, 38 (06): 1-5.
- [9] Ge Jiping, Lang Peng. *Research on the Dynamic Mechanism of University Alliance in China*. *Education Exploration*, 2018 (02): 75-78.
- [10] Zhan Junsan. *Research on strategic alliance of Local Universities*. Wuhan University of Technology, 2008.