

# Analysis on the Path of Training Applied Talents in Transitional Universities

## Taking Heihe University as an Example\*

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**Abstract**—At present, Chinese economy and society are in the historical stage of the transformation of economic development mode, the adjustment and upgrading of economic structure, and the innovation of mass entrepreneurship. China urgently needs a large number of applied technical and skilled talents. Therefore, it is imperative to promote the structural adjustment of higher education and guide universities to cultivate talents for local and industry needs. This paper attempts to clarify the connotation and fundamental requirements of applied talent training and analyze the problems existing in the process of training applied talents in transition universities. Taking Heihe College as an example, through the implementation of talent training measures such as concept renewal, professional optimization, collaborative education, faculty, quality evaluation, etc., the ability of transitional universities to serve regional economic and social development will be enhanced to meet the urgent need of applied talents of the transformation and upgrading of the national industrial structure to effectively achieve the construction goals of applied undergraduate colleges.

**Keywords**—*transitional universities; applied talents; Heihe University*

### I. INTRODUCTION

Since the Ministry of Education, the National Development and Reform Commission, and the Ministry of Finance jointly issued the “Guiding Opinions on Guiding the Transformation of Some Local Undergraduate Universities to Applied Types (the Ministry of Education issue [2015] No. 7)” (hereinafter referred to as “Guiding Opinions”) Undergraduate colleges and universities in many places are actively responding, including the newly established undergraduate colleges. And they make great efforts to accelerate the construction of applied undergraduate colleges. The transformation and development of local undergraduate colleges involves not only the top-level design level of school orientation, school philosophy, development strategy, but also talents training, team building, and discipline construction and other connotation construction levels. Based on the requirements of adapting to the new normal of

economic development and actively integrating innovation-driven development, applied undergraduate colleges aim to cultivate applied talents served to economic and social development, with strong technical skills and innovative employment capabilities.

### II. MOTIVATION ANALYSIS AND FUNDAMENTAL REQUIREMENTS OF TRANSITIONAL UNIVERSITIES

#### A. Analysis of the Causes of Transitional Universities

With the economic development stepping into the new normal and industrial structure transformation and upgrading facing the critical moment, it is urgent to accelerate the cultivation of applied technical talents and promote the formation of a scientific and rational educational structure and human resource structure. Various factors such as the transformation and upgrading of economic structure, the enhancement of university social service capabilities, and the transformation of China from a large manufacturing country to a manufacturing power have prompted the transformation of local new undergraduate colleges to applied universities. From a vertical perspective, it refers to the transformation of local new undergraduate colleges from structure to form, form to connotation then to application type, and it is the transformation of vocational education to integrate undergraduate; from the horizontal perspective, it is the differential development of ordinary undergraduate serving the local. It pays attention to practicality and builds an applied university that is compatible with the needs of local economic development. It can be seen that the application-oriented colleges and universities are in the higher education level. These colleges and universities take training applied technical talents with harmonious development both in mind and body as priority that can serve the local economic society.

#### B. The Fundamental Requirements of the Transitional Universities

1) *The premise of transitional universities is to unify the thought and understanding:* Transforming educational concepts and school-running concepts is an important precursor for transformation and development. The transitional universities should guide the cadres and teachers

\*Fund:2017 Heilongjiang Province Higher Education Teaching Reform Research Key Project: Research and Practice on the Innovation of Applied Talents Training Mode in Transitional Universities—Taking Heihe University as an Example(SJGZ20170020)Stage Achievements.

to unify their thinking, build consensus, and truly transfer ideas and actions to serve local economic and social development, to the integration of production and education, to the training of applied technical and technical talents, and to the enhancement of students' employment and entrepreneurship ability. They also should comprehensively improve the ability of the school to serve regional economic and social development and innovation-driven development.

2) *The core of the transitional universities is to define the type of positioning and transformation path:* The "Guidance Opinions" pointed out that the establishment of the application type positioning and cultivating responsibilities of applied technical and technical talents, should take the integration of production and education, school-enterprise cooperation as a breakthrough. Transitional colleges and universities must closely focus on the requirements of China for transformation development and applied technical talents, combine the school-running tradition with the needs of local economic and social development and determine the school's positioning, development tactics, development ideas, development strategies, and the transformation of the school to find the right path for the transformation development of schools.

3) *The key to transitional colleges and universities is to promote the coordinated education of schools and enterprises:* The "Guiding Opinions" pointed out that establish a talent training model for the integration of production and education and collaborative education, to achieve the docking professional chain and industry chain, curriculum content and professional standards, teaching process and production process. Based on the needs of the community of interests, industry enterprises and universities, as the dual subjects of applied talents training, need to establish a teaching and education integration process of resources sharing, two-way force, and demand docking through a mechanism of communication and coordination, power constraints, and interest protection, for the purpose of their respective development.

4) *The foundation of a transitional university is to strengthen the construction of the teaching staff:* The "Guidance Opinions" pointed out that the construction of the "dual-qualification dual-skilled" teacher team should be strengthened. As the leader of the teaching process, the teacher plays a fundamental role in the cultivation of applied talents. Whether the teachers themselves have excellent practical teaching ability is directly related to the effectiveness of the school-enterprise collaborative education, which directly affects the quality of applied talents. The cultivation of teachers' practical teaching ability is a systematic project. It requires government, enterprises, and schools to provide policy support and financial guarantees. It also requires teachers to improve their practical teaching ability through multiple channels.

### III. PROBLEMS IN THE CULTIVATION OF APPLIED TALENTS IN TRANSITIONAL UNIVERSITIES

#### A. *Outdated Educational Ideas, Not Strong Sense of Transformation Development*

At present, the transformation and development of local undergraduate colleges has received much attention and has become an important part of deepening the comprehensive reform of education. Although the relevant policy documents have put forward requirements for the transformation development of some ordinary undergraduate colleges and universities, and there has been a general framework understanding and regulations on the significance, objectives, paths and specific methods of training applied talents, there are still many doubts and confusions in the society and many problems in practice. The transformation and development of local undergraduate colleges involves not only the top-level design level, such as the orientation and the concept of running a school, and the development strategy, but also the level of connotation construction such as talent cultivation, team building, and discipline construction and things like that. However, some schools lacked in-depth research and rational thinking on "why transform", "what to transform", "where to transform", "how to transform" and "who is going to transform". How to answer and solve this problem has become an urgent task the schools are facing in development construction.

#### B. *Old Talent Training Mode, and Single Collaborative Education Mode*

"Several Opinions of the General Office of the State Council on Deepening the Integration of Production and Education (the General Office of the State Council Issue [2017] No. 95)" (hereinafter referred to as "Several Opinions") pointed out that we need to deepen the "introduction of enterprises into education" reform, support the guidance of enterprises to participate in school professional planning, textbook development, instructional design, curriculum, and internship training in various ways. However, due to the lack of integration motivation, the enthusiasm of enterprises to participate in the integration of production and education is not high. The talent training model of school-enterprise collaborative practice has not been formed yet. There is a lack of matching between the curriculum system setting and the applied talents' knowledge ability and quality requirements. The content of curriculum cannot be adapted to the needs of enterprise posts, the teaching activities are relatively out of line with the production process, the content of teaching materials and professional standards are stagnation, and the evaluation criteria are not compatible with professional qualification certification and problems like these.

#### C. *Out of Economic Development Needs, not Strong in the Capacity of Servicing the Local*

Serving the local is one of the three major functions of higher education institutions. Colleges and universities should have distinctive regional characteristics. However, some newly-built undergraduate colleges lack sufficient

understanding of local industrial policies and development conditions. They are also in short of accurate investigation and research on the urgently needed job requirements for local economic development. They are influenced by traditional thinking, greed, and school-running strength. It is difficult to establish a disciplinary professional system that links the industrial chain and the innovation chain while the schools still organize teaching activities in a traditional way of discipline-professional-curriculum. They lack contact with local economic development in professional construction and talents training, resulting in the ability of newly-built undergraduate colleges serving the local economic and social development is getting worse. On the one hand, the colleges cannot cultivate qualified application-oriented talents that are urgently needed for the development of local economic industries. On the other hand, they cannot provide high-level technology and education services for local economic development, which makes it difficult for local governments and enterprises to support.

#### *D. The Backward Construction of the Teaching Staff and the Absent Quality Assurance System*

The faculty and quality control are the core elements of the transformation of colleges and universities. Co-cultivating the “dual-qualification dual-skilled” teachers and establishing an evaluation system have become the consensus of both schools and enterprises, and various measures have been taken to actively carry out the construction. However, it is not optimistic about the status quo. The weak faculty and the lack of quality assurance system restrict the depth and breadth of university transformation. The original teachers of the school lack practical experience and professional skills, and their own practical teaching ability is difficult to conduct applied scientific research. The ability to serve local social economic development is limited. The outstanding professional and technical talents hired by enterprises have rich practical experience, but most of them do not have the qualifications of teachers, lack of theoretical foundations, basic skills and teaching methods for teaching in colleges and universities, which affect the quality of training of applied talents. From the current situation, all aspects of school-enterprise cooperation, such as professional setting, teacher team building, laboratory construction, classroom teaching, internship training, and graduation design all lack quality standards and standardized management systems that are compatible with the applied talents.

#### IV. COUNTERMEASURES AND SUGGESTIONS ON THE CULTIVATION OF APPLIED TALENTS IN TRANSITIONAL UNIVERSITIES — TAKING HEIHE COLLEGE AS AN EXAMPLE

Heihe College is located in Heihe City, Heilongjiang Province, and is the only ordinary higher-level undergraduate institution in Chinese border line. In recent years, the school has focused on serving the economic and social development of Heilongjiang Province, aiming at the cultivation of applied talents, taking the cooperation between production and education as a breakthrough, vigorously cultivating the applied talents needed for local economic development, and

actively promoting the transition of schools to applied universities.

#### *A. Clarifying the Concept of Transformation and Development, and Clearing the Orientation of Talent Training*

The idea is the forerunner of action and the internal driving force for achieving educational reform and its own development. It is necessary to guide the broad masses of cadres and teachers in the school to understand the significance of the school's transformation and development from the aspects of new normal of national economic development, the new normal of higher education development, the new normal of regional economic development, and the new normal of school development. Heihe College tightly grasps the opportunities of innovation-driven development, China Manufacturing 2025, “Internet +”, mass entrepreneurial innovation, “One Belt, One Road” and other major national strategies and Heilongjiang Province “five major planning” strategy, “top ten key industries” construction, “China-Mongolia-Russia Economic Corridor”, the Heilongjiang Land-and-sea Silk Road Economic Belt and the Heihe economic development strategy. It has established the development goals of the well-known and distinctive application-oriented, international and local comprehensive universities, and implemented the “Four Development Strategies”, deepen the “Five Major Reforms”, complete the “Six Major Tasks”, and implement the “Eight Key Construction Projects”. The school's task transformed from the traditional undergraduate talents or specialist technical skills training to high-quality undergraduate applied talents training, from blindly pursuing the upgrading of the training level and the expansion of the student scale to focusing on cultivating quality and efficiency, and the application of undergraduate education, and when the conditions are ripe, try to carry out professional degree graduate education.

#### *B. Basing on Regional Economic Development, Adjusting the Professional Layout of Disciplines*

Focusing on the orientation of applied undergraduate education, the college establishes a professional early warning and exit mechanism for disciplines, dynamically adjusts the majors around regional economic and industrial changes, and sets up a professional system that closely links local industrial chains and innovation chains. Basing on the actual situation of running schools, preventing greed, it also optimizes traditional disciplines, expands applied disciplines, builds key disciplines, and strengthens specialty disciplines, namely: excellent foundation, extension application, key construction, and strong features.

After more than two years of continuous development adjustment, the school's professional settings have become more reasonable. During the “Thirteenth Five-Year Plan” period, with the orientation of regional economic and social development needs and industrial transformation and upgrading, Heihe College will optimize and adjust the discipline professional structure, promote mutual penetration between relevant disciplines, and build professional clusters

under the vision of integration of production and education and professional cluster under the vision of collaborative education. It will also strengthen the national, provincial and school-level (priority) professional construction and promote the coordinated development of disciplines. By 2020, it will basically complete the professional transformation and structural optimization adjustment, and form a discipline-based professional system with reasonable layout, superior advantages and distinctive features, which is based on arts and sciences, application-oriented, multi-disciplinary coordinated development, and adapted to local economic and social development. It will also continue to consolidate the basic disciplines, while moderately adjusting and transforming existing majors, and implement an early warning exit mechanism for the disciplines of insufficient enrollment less than 50% of plan or graduates employment rate no more than 50%, and stop the enrollment of these two-years-early-warning disciplines until revocation. The college will focus on the construction of new and intersecting applied disciplines that are effectively linked to the local industrial chain, and promote the coordinated development of various disciplines.

#### *C. Constructing a Collaborative Education Model, Achieving Seamless Connection Between Production and Education*

Deepen the integration of production and education, and implement the requirements of “strengthening the important main role of enterprises” in the “Several Opinions”. Application-oriented colleges should change from the single-subject-oriented talent training in the past to the “double-subject” talent training in schools and enterprises. Every link in the training applied talents must involve industry enterprises, and truly realize the seamless connection between the talent cultivation of applied universities and employers. The concept of applied talent training should be changed from “knowledge teaching priority” to “ability training priority”. Focusing on the society's requirements for graduates' knowledge, ability and quality, innovate a talent training model of order-based, embedded, industry-college-institute cooperated, and teaching-learning-practice integrated. Analyzing the demand for talent knowledge, ability and quality in the professional position, the development of talent training program should be changed from “input-oriented” to “output-oriented” and absorb the latest knowledge of the frontier of the enterprise industry. The curriculum system will transform into “knowledge output”, and reformulate the modular curriculum system and teaching content. Let the students play the main role, and change the way of teaching assessment. The teaching process changes from “teaching-centered” to “learning-centered”, and implements flexible and diverse teaching methods such as case-based, project-driven, discussion-style, and heuristic, and changes the end-test to process assessment, and effectively enhances students' self-learning ability.

#### *D. Optimizing the Structure of the Teaching Staff, Improving the Quality Control System*

To deepen the integration of production and education, it is urgent to carry out the training of “dual-qualification dual-skilled” teachers (professional knowledge plus professional skills; teaching ability plus practical ability), and establish a quality evaluation and guarantee system that is compatible with the application of talents. First of all, continue to deepen the cooperation between schools and enterprises and build a team of full-time teachers and part-time teachers. Fully tap and utilize social forces, actively raise funds, and cultivate “dual-qualification dual-skilled” teachers through various forms such as “combination of on-the-job training with corporate employment, short-term training and long-term training, and combination of domestic training and foreign training”. The school should be allowed to hire part-time teachers and determine part-time payment according to the law. Secondly, highlight the application ability and change the teacher evaluation method. Explore the teacher qualification standards and professional position (professional title) evaluation methods that adapt to the characteristics of applied universities, and strive to change the way in which papers and projects are used to evaluate teachers individually. Support and encourage teachers and enterprises to jointly develop new products and technologies, and upgrade teachers. Its own applied science and technology research, the transformation of results and the ability of industry, university and research cooperation. Finally, establish and improve quality standards to ensure the quality of personnel training. The construction of the quality evaluation system of production and education integration should emphasize the cooperation mechanism of “scholar-enterprise leadership, government promotion, industry guidance, and dual-subject implementation of school enterprises”, and establish a systematic design and standardized method to clarify the structure, dimensions and weights of the quality evaluation system of production and education integration.<sup>1</sup> At the same time, emphasis more on quality evaluation should be changed from internal evaluation, self-evaluation and process evaluation to two satisfactions (students' satisfaction with learning results and social satisfaction with the quality of talents in applied universities).

## V. CONCLUSION

As Chinese economic development enters a new normal, it faces the deep adjustment of economic structure, the acceleration of industrial upgrading, the tendency of higher education homogenization, the prominent structural contradictions, and the changes in the relationship between talent supply and demand. It is necessary to focus on the requirements of the state for the development of transformation and the cultivation of applied technology talents. Combined with the school's school-running tradition and the needs of local economic and social development, determine the school's positioning, development strategy,

<sup>1</sup> Jiang Zexu, Construction of Quality Evaluation System for Vocational Education and Production Education [J] Journal of Vocational Education, 2018 (5): 36.

development ideas, development strategies, and find suitable path of the school's transformation and development. This paper analyzes the motivations and fundamental requirements of the transitional universities, and summarizes the problems existing in the training of applied talents in the transitional universities from the aspects of transformational development consciousness, talent training mode, service regional ability, teacher team level and quality monitoring system. Taking Heihe College as an example, it expounds the basic path of applying talents in transitional universities, mainly strengthening the cultivation of applied talents by clarifying the concept of transformation and development, clearing the orientation of talent training, adjusting the layout of disciplines, constructing a collaborative education model, optimizing the structure of teachers, and improving the quality control system so that it can meet the urgent needs of the economic industry for applied talents in the process of transformation and upgrading.

#### REFERENCES

- [1] Liu Guoliang (Ed.) Research on Local University Transformation in Service-oriented Regional Education System[M] Beijing: Higher Education Press, 2014(in Chinese)
- [2] Chen Xing, Research on the Integration of Production and Education in Applied Universities[D] Southwest University, 2017 (in Chinese)
- [3] Cao Dan, From "School-enterprise Cooperation" to "Integration of Production and Education"—Confusion and Thoughts on Promoting the Deep Integration of Production and Teaching in Applied Undergraduate Universities [J] Journal of Tianzhong, 2015(01) (in Chinese)
- [4] He Yanli, Xu Jiang, Analysis on the Path of Transformation and Development of Newly-built Local Undergraduate Universities [J] Journal of Zhongzhou University, 2016(08) (in Chinese)
- [5] Kong Su, Research on the Training Mode of Applied Talents under the Background of Transformation and Development of Local Undergraduate Universities [D], Guangxi Teachers Education University, 2015.6(in Chinese)
- [6] Jiang Zexu, Construction of Quality Evaluation System for Vocational Education and Production Education [J] Journal of Vocational Education, 2018 (5): 36. (in Chinese)