

# Research and Practice on Joint Training Mode for Talents in Colleges and Universities

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**Abstract**—At present, the joint training of talents in colleges and universities has captured the attention of the government and the higher education community. The joint cultivation of talents in colleges and universities is mainly carried out in aspects of external union and internal union. Based on the theoretical framework of the joint training mode of colleges and universities, and by means of case study, this paper explores and studies the talent training mode of the "bachelor-master- doctor association" adopted by Harbin university of commerce, from three aspects of school-running orientation, training objectives and characteristics. This study intends to search for the new talent training mode for colleges and universities. Finally, we believe that the cultivation mode of "bachelor-master- doctor association" improves the theoretical level and practical ability of students and promotes the comprehensive development of students, which is worthy of introduction by colleges and universities.

**Keywords**—*Joint training of talents; Integration of Science and Education; bachelor-master- doctor association*

## I. INTRODUCTION

Since the large-scale industrial production, the degree of science and technology involved in the economic society has gradually deepened and the field has gradually expanded. Conforming to this trend, the goal of higher education talent training has been transformed from pursuing advanced knowledge, advocating academic research to adapting to local economic development. To this point, the government and the higher education sector have a clear understanding of the joint training of talents. For example, the Outline of the National Medium- and Long-Term Education Reform and Development Plan (2010) proposes to strengthen various joint training methods between schools, between schools and enterprises, between schools and scientific research institutions, and between Chinese and foreign cooperation...; Opinions on Deepening the Reform of Education System and Mechanism (2017) proposes that "in-depth promotion of collaborative education and promotion of institutionalization of collaborative training of talents...". This paper summarizes the related research on the joint training mode of talents in colleges and universities, introduces the practical exploration of the joint training of talents in Harbin University of Commerce, and provides reference for the training of talents in economic and administration subject.

## II. RESEARCH ON THE MODE OF TALENT JOINT TRAINING IN COLLEGES AND UNIVERSITIES

The talent training mode of colleges and universities is a combination of the training objectives, training methods and appraisal evaluation of paradigm and style in colleges and universities<sup>[1]</sup>. At present, the joint training of talents in higher education institutions is mainly carried out from the perspective of the combination of higher education institutions and non-high schools and the joint training within the same school.

There are many researches on the joint training of colleges and universities, and social, industrial, and enterprise talents. For example, it is necessary to build a global education concept talent training model that combines colleges and society with no boundaries and three dimensions<sup>[2]</sup>. The educational concept of education should point to vocational , industry and social economic activities<sup>[3]</sup>;when higher education has moved to leader of social development, it should promote the isomorphic symbiosis between discipline logic and application logic, and apply heavy practice and ability. And social methods to build a talent training model<sup>[4]</sup>. Transfer the single training subject of the school to the joint training of universities and industry and research institutes<sup>[5]</sup>.In the research on the joint training of talents for specific majors, it is emphasized to strengthen the joint training between universities and industries according to the needs of the industry<sup>[6]</sup>. In order to meet the needs of the society, the current postgraduate education should adopt the collaborative training mode of "classroom learning + internship project development + academic research"<sup>[7]</sup>.The model of apprenticeship project cluster is to construct apprenticeship project cluster from junior college to postgraduate level from the aspects of industry-education integration and school-enterprise collaboration<sup>[8]</sup>. The above studies are sometimes included in the functions of colleges and universities, including talent training, such as the integration of industry and education, school-enterprise cooperation, integration of industry, education and research, and integration of industry, education, research and application in local ordinary undergraduate colleges and universities. They focus on the cultivation of interdisciplinary and applied talents.

In the internal school union, there are many researches on the mode of joint cultivation of high-level talents, including the cooperative cultivation of students at the same level, the

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integration of science and education, and the mode of joint guidance of master and master. For example, a study group is established with the backbone of students as the center to strengthen classroom collaborative innovation<sup>[9]</sup>. Renmin university of China started its academic education framework in 2012, which promotes talent training with high-level scientific research<sup>[10]</sup>. This mode of joint guidance of master and master refers to the study and research team composed of master's supervisor, master's graduate student and undergraduate student, in which the tutor guides the master's student and the master's student guides the undergraduate student, and the team members improve together in the study<sup>[11]</sup>. These joint training models are often based on the research background of research-oriented universities and "Double First-Class" university.

### III. THEORETICAL CONSTRUCTION: THE THEORETICAL FRAMEWORK OF THE JOINT TRAINING MODE OF COLLEGES AND UNIVERSITIES

From the perspective of education philosophy, the development of higher education includes internal growth motivation and external development purpose. Higher education has its own ontological value and spiritual needs. The external development of higher education aims at the development concept based on the law of higher education, which means that higher education should adapt to social development and cultivate people with comprehensive development.

#### A. *Higher education talent cultivation should be socially oriented*

Experts from the international education development committee mentioned in learning to survive -- today and tomorrow of education world (1996) that "learning to learn, learning to live, learning to do things and learning to survive are the four pillars of education... The future education must be a coordinated team... This is the cultural revolution of The Times"<sup>[12]</sup>. In a changing world, the most important skill is to learn how to learn. In British and American famous universities such as Harvard, Yale, attaches great importance to the expansion of knowledge and the accumulation of social experience, believe that general education such as social and expression skills and scientific literacy will enable students to understand the world. And students have the ability to cope with complex life, the confidence of self-motivation and self-value realization, which brings the inner driving force for the long-term growth of the students.

From a global perspective, educational circuits have changed, and task-driven project-based learning has become a widely used learning style. Students in colleges and universities already have certain knowledge and experience in social production and life. When faced with problems that need to be solved, through the processing and organization of theoretical knowledge and perceptual knowledge, students will adopt the mixed way of learning and discovery learning. Old knowledge and new knowledge are connected, updating their own cognitive structure network, achieving quality development, ability improvement and shaping of personality.

#### B. *Higher education talent cultivation should be future oriented*

Since the beginning of the new century, digital technology represented by the Internet and Artificial Intelligence has accelerated the transformation and upgrading of traditional industries. New business models and formats have been born continuously, bringing unprecedented uncertainty to the way of life and production. So, in the face of an uncertain future, how can universities cultivate innovative, interdisciplinary and applied talents who adapt, support and lead economic and social development for the future society?

Constructionist believe that knowledge is an explanation of reality. When the real situation changes, it is necessary to reinterpret the reality in a creative way. Therefore, learning is to obtain the necessary learning materials by means of meaning construction under a certain situation through the cooperation and interaction between people (including teachers and learning partners) and the use of necessary learning materials. In the future, uncertain social situation, accords with the constructionist view of knowledge and teaching, provides theoretical guidance for colleges and universities to use task-driven teaching method and problem-oriented teaching method.

#### C. *The cultivation of higher education talents should be centered on the Comprehensive development of folks*

In China, the gross enrollment rate of higher education is 45.7 percent in 2017, the number of graduate students is growing rapidly. In 2020, the total number of graduate students in China will reach 2.9 million. Folks are comprehensive and the world is multifaceted. Facing the changing society. We should improve the understanding and participation of the changing practice in order to cultivate the core quality and key ability of people. While teaching knowledge, it points to the growth of people, which enables the students to be richer in their hearts and to not worried or fearful. Students will become the best of their own. We should take the idea of "Fostering Morality and Cultivating the People", through the integration of theoretical knowledge and practical knowledge and the use of a variety of teaching methods, research-based learning and participatory learning can be realized, and students' consciousness and habit of lifelong learning can be cultivated. Only in this way, can they adapt themselves to changes in a changing world.

### IV. PRACTICAL CASES: THE TALENT TRAINING MODE OF "BACHELOR-MASTER- DOCTOR ASSOCIATION"

In 2015, the labor economics specialty of Harbin University of Commerce established the "bachelor-master- doctor association" joint talent training model. This is based on the "Second Classroom" orientation, which aims to cultivate a joint talent training model for students' key abilities such as cognitive ability, cooperation ability, innovation ability and professional ability.

*A. The orientation of the education mode of "bachelor-master- doctor association"*

The composition of the labor economics major "bachelor-master-doctor association" is an organization with doctoral students as the center, and postgraduate and undergraduate students voluntarily apply for the organization based on the research content they are interested in. It relies on the subjective initiative and academic ability of doctoral students to improve the ability development level of postgraduate and undergraduate students. The postgraduate and undergraduate students provide data and data support for doctoral thesis writing, optimize the resource allocation of talent cultivation in colleges and universities, and achieve a win-win situation among the three parties in "driving" and "supporting".

*B. Classification training goal of the talent training mode of "bachelor-master- doctor association"*

On the basis of cultivating the common cooperative attitude and professional spirit, and based on the hierarchical difference of talent cultivation at the three levels of "bachelor, master and doctor", this system mainly trains undergraduates' practical investigation and data collection ability, so that undergraduates can understand and write field investigation reports with the common knowledge of the subject. Focus on cultivating master's ability of data processing and case design, analyzing data rules and summarizing and analyzing on the basis of research reports; Highlight the cultivation of doctoral students' ability of empirical analysis and argumentation, innovative exploration and completion of thesis writing.

*C. The characteristics of the talent training mode of "bachelor-master- doctor association"*

The talent training mode of "bachelor-master- doctor association" has relatively high requirements on teachers, students and resources. And the problem-oriented research process and incentive mechanism are institutionalized.

1) The tutor is elite. The members of the mentor group must be capable, not only able to comprehensively apply the existing curriculum expertise to the knowledge and methods within the system; but also to provide targeted guidance based on the characteristics of the students and the nature of the research questions. Instructors are able to put forward practical and real solutions to complex problems to benefit students. From the teacher's own point of view, it further strengthens the mission of research-based teachers to teach and educate people, and transforms the teaching guidance of teachers from individual behavior to teamwork.

2) Students' Self-autonomous. It reflects students as the center of research-based learning, embodying student-centered teaching and learning. Members of the "bachelor-master-doctor association" are voluntary declarations and free combinations centered on doctoral students. This team formation method provides loyalty and trust for the later teamwork, and guarantees the implementation of the principle of "carrying" and "supporting". To enable students to express cooperative spirit, exercise expression ability, enhance self-confidence in research-based learning. It can also enable

students to realize value creation, ability training and knowledge transfer, and realize the effect of talent cultivation.

3) Research on the content of the problem. The research process is guided by the thesis and topic of postgraduate students, so that students can keep the excited state of learning emotions and create effective learning actions. Specifically, the problem-oriented talent training mode is carried out through diversified learning methods of social practice research and academic exchanges.

Since 2015, based on the research project topics selected by the tutor group and postgraduate students as well as the research direction of doctoral students, the "bachelor-master-doctor association" has been deeply involved in the government, enterprises, communities, towns and other departments to conduct social practice research activities, such as data collection, questionnaire survey and personal interview, so as to improve students' cognitive ability. In the process of research preparation, students division and cooperation, sort out existing research results and design research schemes, which improves students' ability to capture and process information and enhance their ability to cooperate. In the induction and deduction cycle combining document tracking and field investigation and analysis, students will improve own innovation ability and professional ability.

The academic salon is based on the students of the "bachelor-master- doctor association". Once every two weeks, the tutor and the expert team participate in the seminar, listen to the students' scientific research results, and give the comments immediately. The students refine their opinions and clear the thoughts acceptance of challenges and adjustment strategies in the academic salon, which have achieved the integration of academic exchanges, scientific research and personnel training. Improving, effectively, students' cognitive ability and cooperative ability, innovative ability and professional ability through "brain storming".

4) Institutionalization of incentive mechanism. The incentive mechanism mainly includes the teacher's incentive and the student's incentive. In the teacher's motivation is divided into material motivation and spiritual motivation. Material incentive is reflected in the assessment of workload. The tutor is no longer faced with the familiar classroom teaching, but can provide personalized guidance for the study of students' learning behavior, which makes the teaching process complicated and the teaching burden greatly increased. We can learn from the MOOC experiment of "principles of circuits" of Tsinghua University, which gives teachers 3-5 times the workload and relevant honors for the first time to encourage teachers to participate in the joint training of students' enthusiasm.

5) This learning method, team learning and collaborative learning, focuses on thinking, is good for students to intense discussion, relaxation and pleasure, improves learning efficiency. And this method helps students find the passion for exploration that has been extinguished by education. It can also help students find jobs and start businesses by this way that increasing students' sense of achievement and enthusiasm for participation, improving the quality of graduation thesis writing, and participating in the joint venture experience and key ability

improvement .At the same time, the current motivation can be realized by obtaining credits of similar elective courses, academic year evaluation and extra points when joining the party, while the experience of participating in scientific research can help students accumulate knowledge, improve quality and increase ability, thus achieving the integration of process-oriented and goal-oriented.

## V. CONCLUSION

Joint training is based on the objective requirements of higher education personnel training to face the society, face the future, and point to the comprehensive development of folks. Our investigate focuses on the talent training program of Harbin university of commerce, and through the analysis of it, we believe that this training mode in the paper is worthy of exploration and application by colleges and universities. On the one hand, this mode realizes that teaching and learning benefit each other. By discussing complex problems with students, students' answers can give teachers new inspirations and enhance their sense of mission. The teacher's guidance can point out the direction for students and improve their academic ability, so the tutor is as well teacher as well friend. On the other hand, students change from passive learning to active learning and are willing to discuss complex problems. While improving their academic literacy, they also improve their teamwork ability. In short, talent joint training is the future education trend, which requires us to constantly explore and practice.

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