Analysis on the Operation Mode of Undergraduate, Postgraduate and Doctoral Student Integrated Talent Training Mode
—Taking the labor economics major as an example

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Abstract—The labor economics major of Harbin university of commerce implemented the undergraduate, postgraduate and doctoral student integrated talent training mode, and it is faced with related problems in its operation, that is, the degree of voluntary participation of undergraduates was not high enough; the degree of social practice investigation is not deep enough; academic exchanges are not sufficient; and undergraduates are not motivated enough. In view of the above problems, the following countermeasures and suggestions are proposed to integrate the integrated training mode of undergraduate, postgraduate and doctoral student into the talent training program; the practical teaching proportion is added to cultivate students' practical ability. The stable operation of the integrated talent training mode by system is ensured and the scope of "production, learning and research" is expanded by the integrated talent training mode of undergraduate, postgraduate and doctoral student.

Keywords—Undergraduate; postgraduate and doctoral student integration; Talent training mode; Science and education integration; Problem oriented

I. INTRODUCTION

Since the 21st century, the leap-forward development of higher education in China has made it an inevitable choice to improve the quality of higher education. "Different types of colleges and universities explore training modes adapted to their own characteristics, and train innovative, compound and applied talents adapted to the needs of society" [1].

At the beginning of 2015, according to the basic law that higher education should take into account both social needs and the physical and mental development of the educational objects, combining with the characteristics of applied disciplines with strong theoretical nature, and starting from the supply side of higher education, the labor economics specialty of Harbin University of Commerce put forward an integrated talent training mode of undergraduate, postgraduate and doctoral student(the mode), with the help and escort of a tutorial group composed of postgraduate tutors of related disciplines and professionals of institutions, enterprises and institutions, and guided by the problems in doctoral dissertations, postgraduate scientific research topics and tutor scientific research topics, the undergraduate, postgraduate and doctoral student consortium of doctoral students, postgraduate students and undergraduate students of voluntary scientific research is formed. Social practice research, academic exchanges and evaluation methods are guaranteed in order to comprehensively improve students' knowledge reserves, comprehensive quality, core competence and social responsibility. It is a concrete practice of exploring the connotative development of higher education from the perspective of personnel training mode.

II. PROBLEM-ORIENTATED LEADING MODE OPERATION

The operation of the undergraduate, postgraduate and doctoral student consortium is driven by doctoral students, supported by master's students and supported by undergraduates. It combines theoretical teaching and social practice, self-reflection and exchange of discussions, giving students academic freedom of thinking and guiding boundaries by means of evaluation, so as to realize professional education, general education, scientific research, innovation and entrepreneurship education involves the integration of science and education.

A. Establishing a undergraduate, postgraduate and doctoral student consortium for solving problems

From the logical order, the establishment of the undergraduate, postgraduate and doctoral student consortium is the basis of the integrated talent training model. In team building, it is based on the research direction of doctoral students as members of the recruitment consortium. Master and undergraduate students choose the research direction they are interested in to form a undergraduate, postgraduate and doctoral student consortium. That is to say, the basis of team formation is that team members are interested in the same kind of problems, giving full play to their interests is the best educational law of learning motivation to achieve team formation and effective cohesion of team members; and the consistency of interested learning content and learning content makes team's research-based learning itself a happiness.
B. Conducting social practice research for understanding problems

In the social practice investigation, it mainly includes the social practice investigation in winter and summer vacation and the social practice investigation in rest day. Since the summer vacation of 2015, 28 key research groups (consisting of 1-2 doctoral students, 1-6 master's students and several undergraduates) of the undergraduate, postgraduate and doctoral student integrated team of labor economics have conducted social practice research in winter and summer vacation based on the research direction of topics and papers, with the help of direct self-introduction, tutor introduction and team members' social network contacts, field research was conducted in Harbin Aging Commission, pension service institutions with different ownership and poor counties and townships, and first-hand information was collected by telephone survey. Rich and flexible social practice research stimulates students' interest in learning and promotes the effectiveness of theoretical teaching. It is an educational idea put forward by President Xi that "we should practice, combine knowledge with practice, and be a doer".

C. Making academic exchanges for analysis of problems

In 2014, the "Doctoral Academic Salon" of Labor Economics in Harbin University of Commerce has been put into operation, but it is mainly composed of Doctors of Labor Economics, Quantitative Economics, Management, etc. The weekly theme of the seminar is around thesis writing, project declaration and project completion. Since 2015, the major of labor economics has regularly held academic salons attended by members of the labor economics consortium and school tutors. At the beginning of 2017, the major of labor economics institutionalized the "doctoral academic salon" and integrated the three levels of talent cultivation of the Bachelor-Master-Doctor into it, so that the Academic Salon can be guaranteed by personnel, funds and time, and become one of the key points of talent cultivation, thus realizing the integration of academic exchanges, scientific research and talent cultivation. Since 2017, four times "doctoral salons of Finance and labor economics" have been held, with the participation of experts from relevant disciplines inside and outside the school, the Bachelor-Master-Doctor Consortium of Labor Economics and the undergraduate, postgraduate and doctoral student Consortium of Finance. Seven Ph.D. students and 21 Master students have made thematic reports respectively, and experts have commented and collective discussions to achieve the purpose of periodic assessment. In 2017, the discipline group sponsored the National Doctoral Forum on Finance and Labor Economics on the basis of Harbin University of Commerce. Twenty doctoral students from 12 universities, such as Fudan University and Shanghai University of Finance and Economics, made keynote speeches to expand academic exchanges in applied economic research across the country.

D. Implementing two evaluations to regulate the boundary of the problem

At present, in the operation stage of the Bachelor-Master-Doctor consortium, the main evaluation methods are stage evaluation and summary evaluation. In the periodic evaluation, in view of the research report of the winter and summer vacation, the tutor group will hold a report meeting at the beginning of each semester to comment on and grade the research results of the consortium, affirm the achievements and point out the areas to be improved, and award the first, second and third prizes of the research results, and in the counselor system. The bank's outstanding individual and outstanding achievements are reported for reference, so as to achieve incentive and positive reinforcement effect. Summary evaluation is based on the project setting, the quality of the project conclusion and the quality of the graduation thesis of the members of the undergraduate, postgraduate and doctoral student consortium. For example, in 2018, the model was successfully approved eight provincial innovative projects for postgraduate training, and participated in the specificity and pertinence of the graduation thesis of the students of the undergraduate, postgraduate and doctoral student consortium. It proves the effectiveness of undergraduate, postgraduate and doctoral student joint training.

To sum up, problem orientation is the key point of team building, social practice research and academic exchanges. It is the core of leading the integrated talent training mode of undergraduate, postgraduate and doctoral student, which embodies the unity of theory, practice and times in talent training.

III. PROBLEMS EXISTING IN MODE OPERATION

Due to the pilot implementation of the integrated talent training mode of undergraduate, postgraduate and doctoral student in the major of labor economics and other minority disciplines, the following problems are faced.

A. Undergraduates' volunteer participation is not high enough

At present, although most of the doctoral and master students are covered in the integrated talent training model of Harbin University of Commerce, only part of the undergraduate students in this major are covered. The undergraduate students who can participate in the undergraduate, postgraduate and doctoral student coalition are only those who are active in thinking, interested in participating and have strong ability to act; but not those who can participate in the undergraduate, postgraduate and doctoral student coalition. The students who are willing to participate have no compulsory participation and have not formed a solid model of undergraduate training. They can only understand the meaning and concept of integration of science and education in the lectures of professional teachers, and can not harvest the wisdom of action from their own practice.
B. The level of social practice research is not deep enough

Because students lack social experience and the methods of social investigation are inadequate, they will be rejected in the investigation, which will make some students have a taste of it. At the same time, because the places of students' investigation are different according to the content of the research, they sometimes encounter setbacks. For example, in some government departments, even if students greet in advance, they may have less communication time and insufficient communication content because of the busy work of the respondents; in poor areas, research needs to use social network to identify the respondents and other issues.

C. Insufficient academic exchanges

Academic exchanges help members of the undergraduate, postgraduate and doctoral student consortium to generate new ideas, enhance new abilities and change new roles in the process of ideological collision. Teachers help students to process information accurately and achieve the social-based goal of professional education by the individual-based method of general education. However, because the operation of the undergraduate, postgraduate and doctoral student complex is the orientation of the second classroom, the number of academic exchanges will be reduced if the school curriculum and learning tasks are more; and because of the busy work of experts inside and outside the school, the number of participants is relatively random. In terms of the members of the consortium, the participation of master's and undergraduate students is relatively shallow, with relatively few speeches, which is also a manifestation of inactive thinking.

D. Insufficient incentives for Undergraduates

Ph.D. and M.A. students are enthusiastic about academic research, and they participate in scientific research by means of the undergraduate, postgraduate and doctoral student consortium, which provides a broader platform for their study and scientific research. However, for undergraduates, the main ways to motivate undergraduates are ideological propaganda, awarding social practice research certificates and so on. In this way, we have not achieved more pragmatic guarantee in terms of credit points.

IV. COUNTERMEASURE TO PERFECT THE OPERATION OF THE MODEL

A. Integrating the integrated training mode into the talent training program

If the undergraduate, postgraduate and doctoral student integrated talent training mode is integrated into the institutionalized and standardized training program, such as, in the third academic year, it is necessary for undergraduates to have at least one additional scientific research experience to participate in the training mode of Bachelor-Master-Doctor, and become a compulsory course for the integration of science and education, which can benefit all undergraduates and make scientific research experience a constituent element of undergraduates' studies.

Programming of learning and communication between undergraduates and postgraduates is also a mature way for foreign universities to improve the quality of personnel training. For example, the Massachusetts Institute of Technology's Undergraduate Research Opportunity Program (UROP) started in the late 1960s, and the University of California, Berkeley, in the 1990s, started with the cooperation between undergraduates and postgraduates in science and education [2].

B. Increasing the proportion of practical teaching to cultivate students' practical ability

In order to better cultivate college students' practical ability and innovative entrepreneurial ability, in 2012, the Ministry of Education stipulated in the "Several Opinions on Comprehensively Improving the Quality of Higher Education in an All-round Way" that "innovation and entrepreneurship education should run through the whole process of personnel training...". It shows that in the current top-level design of higher education in China, innovation and entrepreneurship education has become an entry point to improve students' practical ability and promote the reform of talent training mode[3].

The undergraduate, postgraduate and doctoral student integrated talent training model is a talent training model with similar training process and similar training objectives as the innovative entrepreneurial training program. The only difference is that the main body of the undergraduate, postgraduate and doctoral student integrated talent training model is the cross-group team of doctoral, master and undergraduate students. Since the implementation of the Innovation and Entrepreneurship Training Program has been implemented early and has been widely implemented in universities across the country, it has accumulated experience. The undergraduate, postgraduate and doctoral student integrated talent training model can learn from the practice of cultivating practical ability in innovation and entrepreneurship education. In addition, it can also open a "Social Survey Research Method" course to allow students to participate in the tutor's research projects, increase the experience and social practice management in schools, and increase the infiltration of professional environment and culture, and the instructors who added practical teaching management positions are responsible for practical teaching management to promote students' practical ability.

C. Institutional Guarantee for the Operational Stability of the Integrative Talents Training Model

The guarantee of the operation system is mainly embodied in the institutional guarantee of time, place and incentives. The operation of the undergraduate, postgraduate and doctoral student consortium should be fixed as scheduled for the students, so as to ensure the stable operation of the talent training mode.
First of all, the practice of research time requires institutional guarantees, which can be reflected in the writing and quality of practical research reports.

Secondly, the institutionalized guarantee of the time and place of academic exchanges, through the system guarantees regular organization of brainstorming seminars, so that students can learn in the seminars, improve in reflection, avoid the enrichment of information and the limited processing of human information[4]. The contradiction between capabilities improves the efficiency of the operation of the consortium.

Finally, through social practice research and academic reflection, students develop the whole process of learning, all-round learning awareness and habits, improve the mechanism system of students' learning[5]; at the same time, use the credit system, graduation thesis results, the department incentive mechanism to solve the subject's utilitarianism demand, improve students' ability to solve problems.

D. Expanding the scope of “production, study and research” by mode Operation

The talent training model and the 21st century global doctoral training method - from the school's instructor independent training to team guidance multi-party collaborative training methods[6]. It is conducive to undertaking the horizontal issues of local economic and social development in the name of schools or disciplines, building a mechanism of "symbiosis+integration+coordination", improving the consciousness and ability of serving regional economy in an all-round way, making students obtain practical results and sense of achievement, and cultivating socialism builders with responsibility, method and ability for society.

V. CONCLUSION

The integrated training model provides a platform for students from three groups to accumulate academic experience and exercise scientific research ability, which stimulates the initiative of students' theoretical study and increases students' self-confidence in trying new things and taking social responsibility. Specifically, by participating in social practice research, students can understand the reality and generate diversified thinking, which is conducive to academic innovation and provides a basis for creative problem solving. The speculative nature of academic research makes students understand that the frontiers of science are not out of reach, and that with the will and appropriate actions, everyone can become a researcher with academic expertise. In general, it has realized the effect of promoting learning through practice, promoting the academic style with practicality, and promoting students' academic progress and career development.

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